Acer Altos G540 M2 Series

User's Guide

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Record the model number, serial number, purchase date, and place of purchase information in the space provided below. The serial number and model number are recorded on the label affixed to the unit. All correspondence concerning the unit should include these information.

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Acer Altos G540 M2 Series

Model Name : G540 M2

Part Number: MU.R3500.001

Purchase Date: _____

Place of Purchase: _____

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Notices

FCC notice

Class A devices do not have an FCC logo or FCC IDE on the label. Class B devices have an FCC logo or FCC IDE on the label. Once the class of the device is determined, refer to the following corresponding statement.

Class A equipment

This device has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at personal expense.

Notice: Shielded cables

All connections to other computing devices must be made using shielded cables to maintain compliance with FCC regulations.

Notice: Peripheral devices

Only peripherals (input/output devices, terminals, printers, etc.) certified to comply with the Class A limits may be attached to this equipment. Operation with noncertified peripherals is likely to result in interference to radio and TV reception.

Caution: Changes or modifications not expressly approved by the manufacturer could void the user's authority, which is granted by the Federal Communications Commission, to operate this server.

Use conditions

This part complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Notice: Canadian users

This Class A digital apparatus meets all requirements of the Canadian interference-Causing Equipment Regulations.

Laser compliance statement

The CD-ROM drive in this server is a laser product. The CD-ROM drive's classification label (shown below) is located on the drive.

CLASS 1 LASER PRODUCT
CAUTION: INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.

Important safety instructions

Read these instructions carefully. Save these instructions for future reference.

1 Follow all warnings and instructions marked on the product.

2 Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

3 Do not use this product near water.

4 Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.

5 Slots and openings on the front and rear side of the chassis are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.

6 This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.

7 Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.

8 If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed the fuse rating.

9 Never push objects of any kind into this product through chassis slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

10 Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.

11 Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

   a When the power cord or plug is damaged or frayed.

   b If liquid has been spilled on the product.

   c If the product has been exposed to rain or water.

   d If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal condition.

   e If the product has been dropped or the chassis has been damaged.

   f If the product exhibits a distinct change in performance, indicating a need for service.

12 Replace the battery with the same type as the product's battery we recommend. Use of another battery may present a risk of fire or explosion. Refer battery replacement to a qualified service technician.

13 **Warning!** Batteries may explode if not handled properly. Do not disassemble or dispose of them in fire. Keep batteries away from children. Promptly dispose used batteries according to regulations applicable to your area.

14 Use only the proper type of power supply cord set (provided in your accessories box) for this unit. It should be a detachable type: UL listed/CSA certified, type SPT-2, rated 7A 125V minimum, VDE approved or its equivalent. Maximum length is 15 feet (4.6 meters).

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1 System tour

The Acer Altos G540 M2 server is a fully modular dual-processor system featuring the latest in computing technology. It host a range of powerful and flexible features designed to meet the needs of various network environments. From simple networking functions to computing intensive applications, the Altos G540 M2 delivers.

System specifications

This section lists down the impressive computing features of the Altos G540 M2 system.

Performance

Processor

- One or two Intel® Xeon™ processor 5500 series
  - Up to 2.93 GHz
  - 4.80/5.86/6.40 GT/s QPI
  - 4/8 MB shared cache
  - 800/1066/1333 DDR3 memory
- Support for the following Intel® technologies:[1]
  - Turbo Boost Technology
  - Hyper-Threading (HT) Technology
  - Virtualization Technology
  - QuickPath Technology up to 6.4 GT/s
  - 64 Technology

Chipset

- Intel® 5520 chipset

Memory

- Twelve DDR3 1333 MHz ECC unbuffered/registered DIMMs (six DIMMs per processor), supporting:
  - Six-channel memory bus (three channels per processor)
  - 1 to 8 GB (subject to availability) registered DIMMs for up to 96 GB of total system memory, or 1 to 4 GB unbuffered DIMMs for up to 48 GB of total system memory
  - Memory mirroring, Lockstep mode, x4/x8 SDDC

[1] For more information on these Intel technologies, visit the Intel Xeon web site at http://www.intel.com/products/processor/xeon/index.htm.

PCI interface

- Five PCI Express® and PCI expansion slots
  - One PCI Express® 2.0 x16 slot
  - Two PCI Express® 2.0 x8 slots (with eight PCI Express® 2.0 lanes)
  - One PCI Express® x8 slot (with four PCI Express® lanes)
  - One PCI (32-bit / 3.3 V) slot

Video controller

- Embedded graphics controller with 32 MB video memory

Networking

- Integrated dual-port Gigabit Ethernet supporting Intel® I/O Acceleration Technology (IOAT)
- Integrated single-port 10/100 Fast Ethernet for server management and KVM over IP remote management
- Supports boot from iSCSI

Media storage

Two front 5.25” drive bays:

- Up to eight 3.5" or sixteen 2.5" SAS/SATA HDDs in two cages
  - Easy-swappable
  - Supports hot-swap with optional backplane

  Note: 3.5” and 2.5” drives cannot be combined together, either you have to all use the 3.5” drive or all 2.5” drive. Combination of the two different sized drive is not supported.

- DVD-ROM or DVD Writer
- 5.25" tape drive (optional)

I/O ports

- Two PS/2 ports
- Serial port
- VGA port
- Six USB 2.0 ports
- Two Gigabit LAN ports (RJ-45)
- Fast Ethernet (RJ-45) port dedicated for BMC for management

Power supply and system fan

- 600 W (85% power efficiency) or 610 W power supply, 110-127 / 200-240V (can be upgraded with second power module for hot-swap and redundancy)
- One system fan (can be upgraded with second system fan for redundancy)

Hardware monitoring and server management

- Power status LED
- HDD access LED
- LAN activity LED
- System Status LED
- System ID LED/Button
- Chassis intrusion alert
- Lockable door
- IPMI 2.0
- TPM v1.2
- Built-in Altos eXpress Console for server management and KVM over IP remote management
- Acer EasyBUILD™v9.0
- Acer Server Manager (ASM)

Operating system

- Microsoft® Windows® Server 2008 Standard and Enterprise Edition (x86)
- Microsoft® Windows® Server 2008 Standard and Enterprise Edition (EM64T)

- Microsoft® Windows® Server 2003 Standard and Enterprise Edition (x86)
- Microsoft® Windows® Server 2003 Standard and Enterprise Edition (EM64T)
- Red Hat® Enterprise Linux 5.0 (x86)
- Red Hat® Enterprise Linux 5.0 (EM64T)
- Novell® SuSE® Linux Enterprise Server 10 (x86)
- Novell® SuSE® Linux Enterprise Server 10 (EM64T)
- VMware ESX4i and VMware ESX4.0
- Novell® NetWare® 6.5

Mechanical

- Chassis
  - Tower
  - 5U rack-mountable
  - Dimensions
    - Height: 432 mm (17 in)
    - Width: 210 mm (8.27 in)
    - Depth: 650 mm (25.6 in)

Environmental

- Temperature
  - Operating: +0° to +35°C with the maximum rate of change not to exceed 10° per hour.

Hardware options

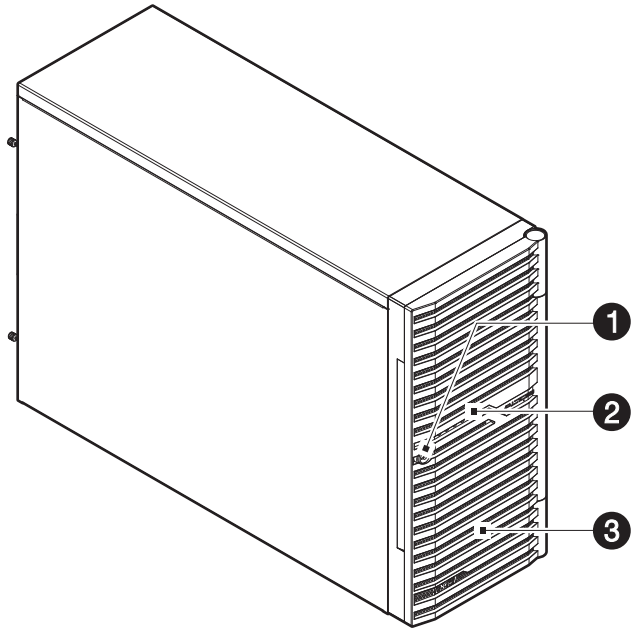
Note: To purchase the any of the following hardware options, contact your local Acer representative.

- Intel® Xeon® processor 5500 series:
  - 2.66 – 2.93 GHz with 8 MB shared cache, 6.40 GT/s QPI
  - 2.26 – 2.53 GHz with 8 MB shared cache, 5.86 GT/s QPI
  - 1.86 – 2.13 GHz with 4 MB shared cache, 4.80 GT/s QPI
  - 1.86 GHz with 4 MB shared cache, 4.80 GT/s QPI
- Memory
  - Registered DDR3 1333 MHz ECC DIMMs: 1/2/4/8 GB
  - Unbuffered DDR3 1333 MHz ECC DIMMs: 1/2/4 GB
- HDD:
  - 2.5" SAS (10,000 RPM) HDD: 73/146/300 GB
  - 2.5" SAS (15,000 RPM) HDD: 36/73/146 GB
  - 2.5" SATA 3 Gb/s HDD: 250/320/500 GB
  - 3.5" SAS (15,000 RPM) HDD: 147/300/450 GB
  - 3.5" SATA 3 Gb/s HDD: 320/500/640 GB, 1/1.5 TB
- Daughter cards/modules:
  - TPM module
- Add-on cards:
  - ASC/3S single-channel U320 SCSI HBA (for backup device)
  - ASSC/3D dual-port SAS HBA (for backup device)
  - ASSC/3Q four-port 3 Gb SAS HBA
  - ASSRC/3O eight-port 3 Gb SAS RAID HBA
  - AFC/4S single-port 4 Gb FC HBA
  - AFC/4D dual-port 4 Gb FC HBA
  - Gigabit Ethernet server adapter
  - PCI Express® x16 graphics card
- Storage drives:

  - Quantum GoVault Tabletop Dock USB drive
  - Quantum GoVault Tabletop Dock external USB drive
  - Acer DAT160 80/160 GB USB tape drive
  - Acer DAT72 36/72 GB USB tape drive
  - Acer LTO-3 SAS tape drive
  - DVD-RW or DVD Writer
- Hot-swappable, redundant power supply module
  - 610 W redundant power supply module
  - 600 W redundant power supply module (85% power efficiency)
- Altos rack mount kit
- Redundant fan module

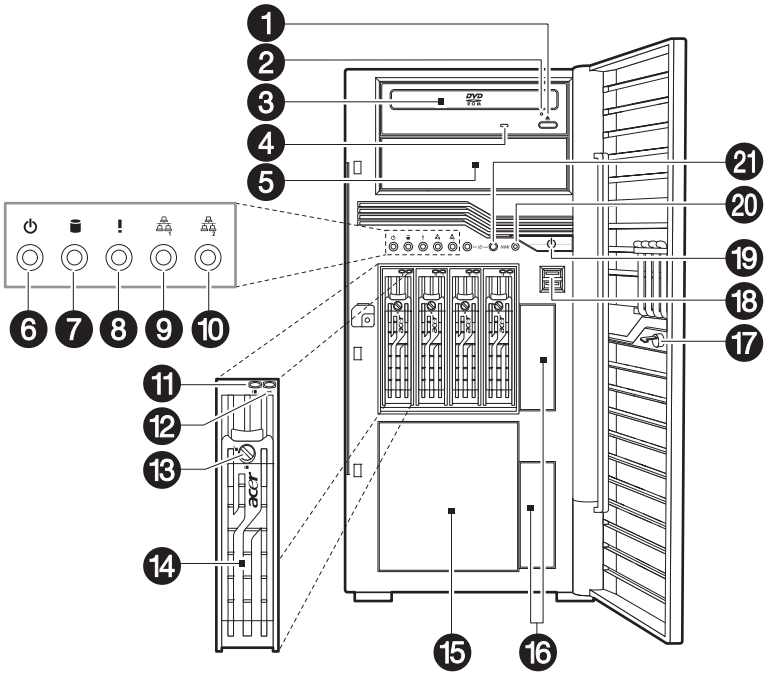
External and internal structure

Front bezel



No.	Component
1	Security keylock This lock secures the bezel door to protect the server unit from unauthorized access.
2	LED indicator panel For more information on the LED indicators description, go to page 24.
3	Bezel door

Front panel

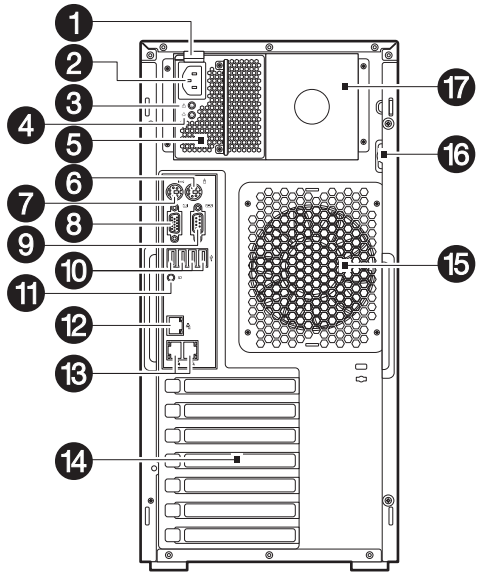


No.	Icon	Component	Description
1		DVD-ROM drive Eject button	Press this button to open the DVD drive tray.
2		DVD-ROM drive mechanical eject hole	When the DVD drive tray get stucked, insert a paperclip to this hole to manually eject the tray.
3		DVD-ROM drive	Disk drive for reading CD, VCD, and DVD contents.
4		DVD-ROM drive activity indicator	When the LED indicator is lit, there is an ongoing DVD drive activity.
5		5.25-inch drive bay	Allows installation of additional storage devices. Go to page 4 for a list of supported devices.

No.	Icon	Component	Description
6		Power indicator	Indicates the system power status (green).
7		HDD activity indicator	Indicates the status of a system hard drive (green/amber).
8		Status/fault indicator	Indicates the status of the system operations (green/amber).
9		LAN port 1 status indicators	Indicate the system network 1 connection status.
10		LAN port 2 status indicators	Indicate the system network 2 connection status.
11		Hot-plug HDD activity indicator	Indicates the activity of a hot-plug HDD installed in the system (green /amber).
12		Hot-plug HDD status indicator	Indicates the status of the hot-plug HDD installed in the system (green/ amber).
13		Hot-plug HDD locking mechanism	Locking mechanism to secure the Hot-plug HDD.
14		HDD carrier	Supports four hot-plug or easy-swap SAS or SATA2 HDDs.
15		HDD cage bay	Supports an optional HDD cage (hot-plug or easy-swap).
16		HDD bay covers	Covers for the HDD bays.
17		Lock	Lock for preventing the system from unauthorized access.
18		USB 2.0 ports	Connects to USB devices.
19		Power button	Press to turn the server on/off, or to put it in standby mode.

No.	Icon	Component	Description
20	*NMI*	NMI switch	If the system crashes or stops normal operation, press the NMI switch to mechanically force the server to issue a non-maskable interrupt. This will perform a memory dump-writing the contents of the server's CPU registers and RAM to a network server or to diskettes. This memory dump can later be analyzed to determine the cause of the problem.
21		Unit identification (UID) switch/indicator	Press the ID button to turn on the ID LED indicator. This identifies a particular unit within a server group during servicing or maintenance procedures.

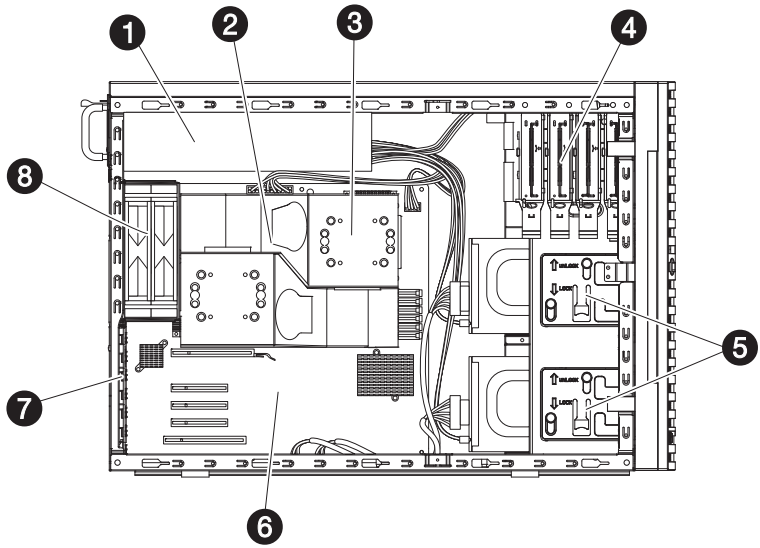
Rear panel



No.	Icon	Component	Description
1		Power supply module release latch	Push down the latch to disengage the module from the chassis.
2		Power supply module cord socket	Connect the system power cord here.
3	⚠	Power supply module fault indicator	Indicates the occurrence of a fault condition in the power supply module. (green/amber)
4		Power supply module status indicator	Indicates the status of the power supply module. (green)
5		Main power supply module	Provides the system's main power supply.

No.	Icon	Component	Description
6		PS/2 mouse port	Connects to a PS/2 mouse.
7		PS/2 keyboard port	Connects to a PS/2 keyboard.
8		Monitor port	Connects to monitors.
9		Serial port	Connects to serial devices.
10		USB 2.0 ports	Connects to USB devices.
11	*ID*	Unit identification (UID) switch/ indicator	Press to mark a particular server unit within a server group (when rack-mounted) for purpose of identification during servicing or maintenance procedures. (blue)
12		Management LAN port	Fast Ethernet (RJ-45) port dedicated for BMC management.
13		Gigabit LAN ports 1/2	Connects to an Internet or intranet network.
14		PCI slot covers	Protects the vacant expansion slots.
15		System fan	Regulates the system airflow.
16		Lid switch	Sent out warning alerts when the lid is opened or compromised.
17		Redundant power supply module bay	Accommodates an optional hot-swap redundant power supply module.

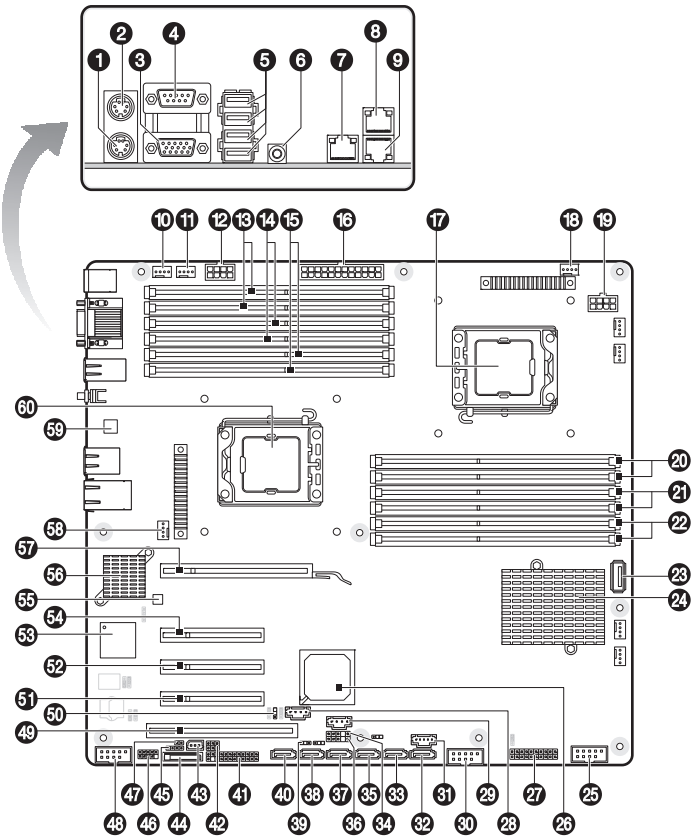
Internal components



No.	Component
1	Redundant power supply module bay
2	Air duct
3	Heat sink fan (HSF) assemblies
4	Sliders for the 5.25-inch devices
5	Release sliders for the HDD cages
6	Mainboard
7	PCI slot lock
8	System fan Users have the option to purchase a redundant system fan unit.

System boards

Mainboard



No.	Code	Description
1	KB	PS/2 Keyboard port
2	MS	PS/2 Mouse port
3	VGA	VGA D-sub port

No.	Code	Description
4	COM	COM A serial port
5	USB	USB ports
6	ID_SW	ID switch
7	MNGT_NIC	Management LAN port
8	GBE1	Gigabit LAN port 1
9	GBE2	Gigabit LAN port 2
10	FAN_SYS5	Redundant fan 1 connector (default)
11	FAN_SYS6	Redundant fan 2 connector
12	12V_AUX2	8-pin Power connector for Processor 2
13	DIMMF1/ DIMMF2	DDR3 memory slot 1/2 (Channel F) for Processor 2
14	DIMME1/ DIMME2	DDR3 memory slot 1/2 (Channel E) for Processor 2
15	DIMMD1/ DIMMD2	DDR3 memory slot 1/2 (Channel D) for Processor 2
16	ATX	24-pin ATX Power connector
17	CPU1	Processor 1 Socket
18	FAN_CPU1	FAN connector for Processor 1
19	12V_AUX1	8-pin Power connector for Processor 1
20	DIMMA1/ DIMMA2	DDR3 memory slot 1/2 (Channel A) for Processor 1
21	DIMMB1/ DIMMB2	DDR3 memory slot 1/2 (Channel B) for Processor 1
22	DIMMC1/ DIMMC2	DDR3 memory slot 1/2 (Channel C) for Processor 1
23	USB_A	USB Type A connector

No.	Code	Description
24	U82	Intel® 5520 (North Bridge)
25	USB1	USB connector for internal USB (Tape Device)
26	U60	Intel ICH 10R (South Bridge)
27	TPM	TPM connector
28	J3	SMBus connector for backplane board 2
29	J2	SMBus connector for backplane board 1
30	USB_3	USB connector for SSD
31	PSMI1	PSMI connector
32	SATA0	SATA connector 0
33	SATA1	SATA connector 1
34	SGPIO_JP2	SGPIO connector for backplane board 2
35	SATA2	SATA connector 2
36	SGPIO_JP1	SGPIO connector for backplane board 1
37	SATA3	SATA connector 3
38	SATA4	SATA connector 4
39	CLR_CMOS	Clear CMOS jumper

You may clear the CMOS data to its default values by this jumper.

Default value doesn't include the "Shunter" to prevent from improper use of this jumper. To clear CMOS, temporarily short 2-3 pin.

1-2 close: Normal operation (Default setting)

2-3 close: Clear CMOS

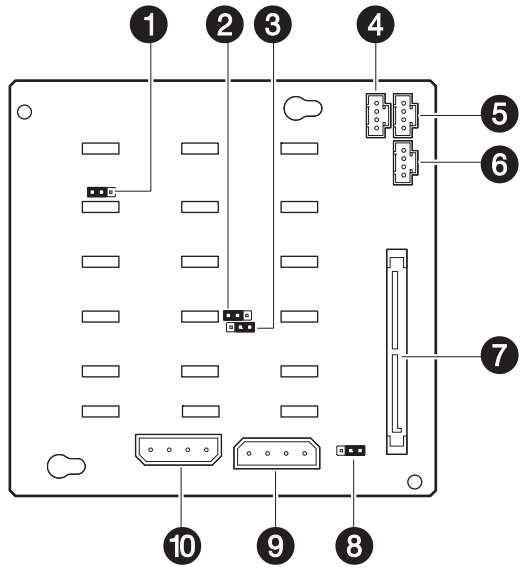
No.	Code	Description
40	SATA5	SATA connector 5 for SATA ODD
41	F_PANEL	Front panel connector
42	J1	BMC firmware upgrade connector
43	IPMB1	3-pin IPMB connector
44	BAT	CMOS Battery
45	IPMB2	4-pin IPMB connector
46	USB2	USB connector for front USB ports
47	CASE_OPEN	Chassis Intrusion connector
48	COMB	COM B serial port connector
49	PCI5	PCI slot 5 (32bit/33MHz/3.3V)
50	BIOS_RVCR	BIOS Recovery Jumper
	1-2 close: Normal operation. (Default setting)	
	2-3 close: Enable BIOS Recovery function	
51	PCI-E4	PCI-E x8 slot 4 (Gen1, x4 throughput)
52	PCI-E3	PCI-E x8 slot 3 (Gen2)
53	U5	BMC
54	PCI-E2	PCI-E x8 slot 2 (Gen2)
55	U188	Hardware monitor controller
56	U6	Gigabit Ethernet Network Controller
57	PCI-E1	PCI-E x16 slot 1 (Gen2)
58	FAN_CPU2	FAN connector for Processor 2
59	U24	10/100 Fast Ethernet PHY

No.	Code	Description
60	CPU2	Processor 2 Socket

Backplane board

The backplane board attached to rear of the hot-plug HDD cage is what differentiate it from the easy-swap HDD cage model.

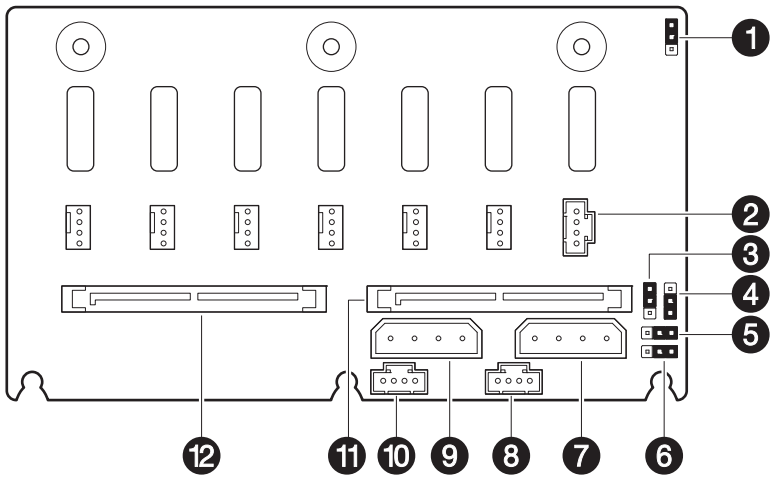
3.5″ Backplane Board



No.	Code	Description
1	J14	Close 1-2: Two LED indication (default) Close 2-3: Single LED indication (backward support)
2 3	J16 J15	Backplane address setting: Jumper Backplane 1 Backplane 2 J15 Close 2-3 Close 2-3 J16 Close 1-2 Close 2-3
4	J3	SMBUS connector for backplane cascade
5	J2	SMBUS connector to main board (J2)

No.	Code	Description
6	J1	SMBUS connector to RAID card
7	SAS/CON	SAS 8484 32-pin connector
8	J17	Close 1-2: default Close 2-3: backward support
9	CN1/X1	Power connector (4-pin)
10	CN1/X2	Power connector (4-pin)

2.5" Backplane Board



No.	Code	Description
1	J27	Close 1-2: Two LED indication (default) Close 2-3: Single LED indication (backward support)
2	J2	SMBUS connector to main board (J2)

No.	Code	Description
3	J28	Backplane address setting:
4	J29	Jumper / Backplane 1 / Backplane 2 J28 / Close 2-3 / Close 1-2 J29 / Close 1-2 / Close 2-3 J30 / Close 2-3 / Close 1-2 J31 / Close 2-3 / Close 1-2
5	J30	
6	J31	
7	CN2/X1	Power connector (4-pin)
8	J3	SMBUS connector for backplane cascade
9	CN1/X1	Power connector (4-pin)
10	J1	SMBUS connector to RAID card
11	SAS/CON1	SAS 8484 32-pin connector (port 0 ~ 3)
12	SAS/CON2	SAS 8484 32-pin connector (port 4 ~ 7)

System LED indicators

This section discusses the different LED indicators located on the:

- Front panel
- Hot-plug HDD carrier
- LAN port

Knowing what each LED indicator signifies can aid in problem diagnosis and troubleshooting.

Front panel LED indicators

The six LED indicators mounted on the front bezel. These indicators remain visible even when the bezel door is closed.

Indicator	Color	State	Representative Status
Power	Green	ON	S0: Power ON
	Green	Blink (1Hz with at 50% duty cycle)	S1: Sleep
	N/A	OFF	S4
	N/A	OFF	S5
HDD activity	Green	Blink	HDD Access
	N/A	OFF	No access and No HDD fault

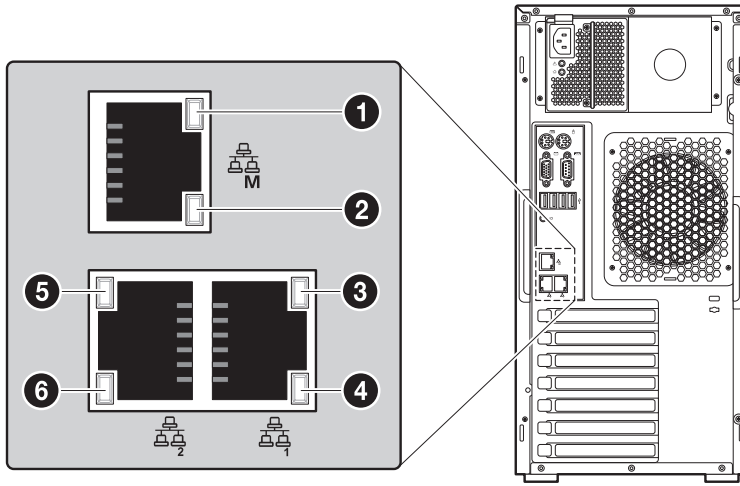
System Status	Green	ON	System Ready / No Alarm
	Green	Blink (1Hz with at 50% duty cycle)	System Ready but degraded some CPU fault, DIMM killed
	Amber	ON	Critical Alarm (Critical power modules, Voltage Power supply, critical temperature and voltage … etc. failure)
	Amber	Blink (1Hz with at 50% duty cycle)	Non-critical Alarm (Non-critical temperature and voltage)
	N/A	OFF	System not ready (Post error/NMI event/CPU or terminator missing, … etc.)
LAN Activity (LAN1 and LAN2)	Green	ON	LAN Link / No Access
	Green	Blink	LAN Access
	N/A	OFF	Disconnect / Idle
System ID	N/A	OFF	Normal
	Blue	ON	System Identification

Hot-plug HDD LED indicator

A drive activity LED indicator is mounted on the hot-plug HDD carrier. The table below lists the possible drive states.

Status		
HDD Present	Steady ON	OFF
HDD Access	Blink	OFF
HDD Failure	OFF	Steady ON
HDD Removed	OFF	Steady ON
HDD Insert and rebuilding	Steady ON	Blink
HDD Locate	Blink	Blink

Gigabit LAN port LED indicators



LED Indicator	LED #	LED Color	LED State	NIC State
Network speed (left)	1, 3, 5	Amber	On	1000 Mbps link network access
		Green	On	100 Mbps link network access
			Off	10 Mbps link network access
Network connection (right)	2, 4, 6	Green	On	Active network link
		Green	Blinking	Transmit/Receive activity

2 System setup

This chapter gives you instructions on how to prepare the system for operation. Procedures for connecting peripherals are also explained.

Setting up the system

Pre-installation requirements

Selecting a site

Before unpacking and installing the system, select a suitable site for the system for maximum efficiency. Consider the following factors when choosing a site for the system:

- Near a grounded power outlet
- Clean and dust-free
- Stable surface free from vibration
- Well-ventilated and away from sources of heat
- Secluded from electromagnetic fields produced by electrical devices such as air conditioners, radio and TV transmitters, etc.

Checking the package contents

Check the following items from the package:

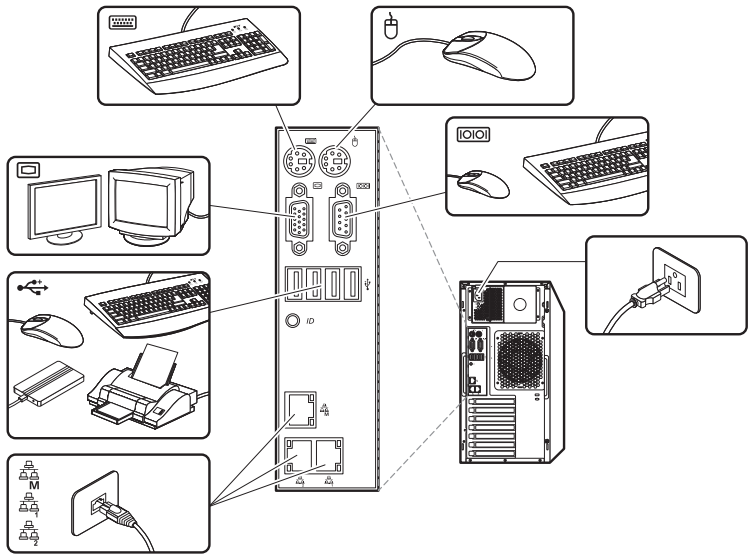
- Acer Altos G540 M2 system
- Acer EasyBUILD™ DVD Pack
- Acer Altos G540 M2 accessory box
- System keys

If any of the above items are damaged or missing, contact your dealer immediately.

Save the boxes and packing materials for future use.

Connecting peripherals

The color-coded I/O port panel on the system rear accepts a variety of compatible peripherals. Refer to the figure below for specific connection instructions for each port.



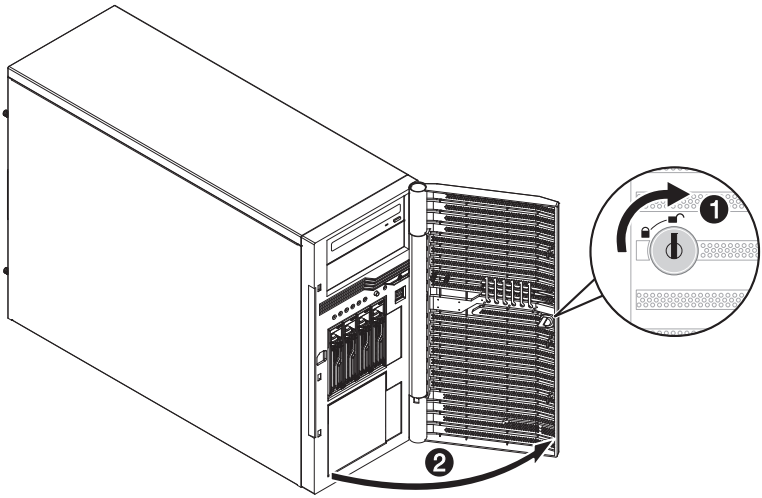
Note: Consult the operating system manual for information on how to configure the network setup.

Caution: Do not route the power cord where it will walked on or pinched by items placed against it. The server is designed to be electrically grounded (earthed). To ensure proper operation, plug the power cord into a properly grounded AC outlet only.

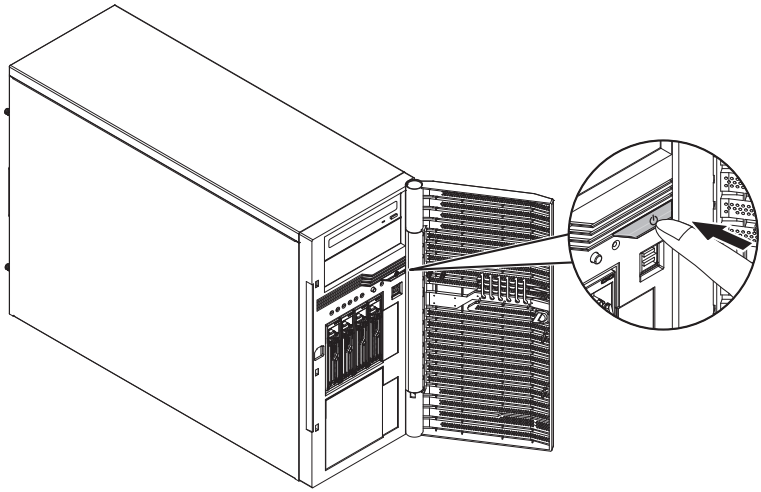
Turning on the system

After making sure that you have properly set up the system, applied power, and connected all the necessary peripherals, you can now power on the system. Follow the procedure below.

1 Unlock and open the bezel door.



2 Press the power button.



The system starts up and displays a welcome message on the monitor. After that, a series of power-on self-test (POST) messages appears. The POST messages indicate if the system is running well or not.

Note: If the system does not turn on or boot after pressing the power button, go to the next section for the possible causes of the boot failure.

Aside from the POST messages, you can determine if the system is in good condition by checking if the following occurred.

- The power status indicator on the front panel lights up green.
- The Num Lock, Caps Lock, and Scroll Lock indicators on the keyboard light up.

Power-on problems

If the system fails to boot after you have applied power, check the following factors that might have caused the boot failure.

- The external power cord may be loosely connected.

  Check the power cord connection from the power outlet to the power cord socket on the rear panel. Make sure that the cord is

properly connected to the power outlet and to the power cord socket.

- No power comes from the grounded power outlet.

  Have an electrician check your power outlet.

- Loose or improperly connected internal power cables.

  Check the internal cable connections. If you are not confident to perform this step, ask a qualified technician to assist you.

Warning! Make sure all power cords are disconnected from the electrical outlet before performing this task.

Note: If you have gone through the preceding actions and the system still fails to boot, ask your dealer or a qualified technician for assistance.

Configuring the system OS

The Altos G540 M2 comes with Acer EasyBUILD that allows users to conveniently install the preferred operating system. To start using EasyBUILD, follow the steps below.

1 Locate the EasyBUILD DVD included in the system package.

2 With the system turned on, press the DVD-ROM drive Eject button.

3 When the disc tray slides open, insert the EasyBUILD DVD with the label side of the disc facing upward.

Note: When handling the disc, hold it by the edges to avoid smudges or fingerprints.

4 Gently press the disc down to make sure that it is properly inserted.

Caution: While pressing the disc, be careful not to bend the disc tray. Make sure that the disc is properly inserted before closing the disc tray. Improper insertion may damage both the disc and the DVD-ROM drive.

5 Press the drive Eject button again to close the disc tray.

6 The Acer EasyBUILD sequence begins. Follow all onscreen instructions.

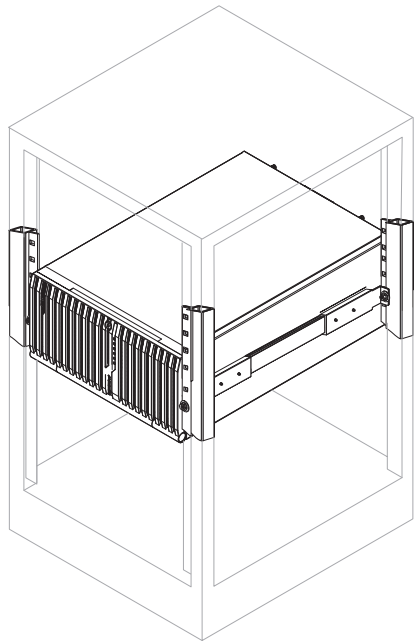
For more information, refer to the EasyBUILD Installation guide.

Note: EasyBUILD only supports the Microsoft and Red Hat Linux operating systems. The Windows or Red Hat installation disc(s) is required to install the OS.

Rack mount configuration

The Altos G540 M2 server is a dual-platform system that can be set up in both tower and rack-mount configurations. A rack mount kit is available for customers who prefer to mount the server in a system rack. To purchase a rack mount kit, contact your local Acer representative or order directly from http://www.acer.com/.

The figure below shows the Altos G540 M2 server in a rack-mount position.



For instructions on tower-to-rack configuration, refer to “Appendix B: Rack mount configuration” on page 157.

Turning off the system

There are two ways to turn off the server—via software or via hardware. The software procedure below applies to a system running on a Windows OS. For other NOS shutdown procedures, refer to the related user documentation.

To turn off the system via software:

1 Press **Ctrl**+**Alt**+**Delete** on the attached keyboard or click the **Start** on the Windows taskbar.

2 Select **Shut Down.**

3 Select **Shut down** from the drop-down menu, then click **OK**.

To turn off the system via hardware:

If you cannot shut down the server via software, press the power button for at least four seconds. Quickly pressing the button may put the server in a Suspend mode only.

3 System upgrade

This chapter discusses the precautionary measures and installation procedures you need to know when upgrading the system.

Installation precautions

Before you install any server component, it is recommended that you read the following sections first. These sections contain important ESD precautions along with pre-installation and post-installation procedures.

ESD precautions

Electrostatic discharge (ESD) can damage static-sensitive hardware components, such as the processor, disk drives, and the system boards. Always observe the following precautions before you install a server component:

- Do not remove a component from its protective packaging until you are ready to install it.
- Do not touch the component pins, leads, or circuitry.
- Components with a Printed Circuit Board (PCB) assembly should always be laid with the assembly-side down.
- Wear a wrist grounding strap and attach it to a metal part of the server before handling components. If a wrist strap is not available, maintain contact with the server throughout any procedure requiring ESD protection.
- Keep the work area free of nonconductive materials, such as ordinary plastic assembly aids and foam packing.

Pre-installation instructions

Perform the steps below before you open the server or before your remove or replace any component.

Warning! Failure to properly turn off the server before you start perform any hardware configuration may cause serious damage and bodily harm. Do not attempt the procedures described in the following sections unless you are a qualified service technician.

1. Turn off the server and all connected peripherals.
2. Unplug all power cables from their outlets.
3. Disconnect all telecommunication cables from their ports.
4. Place the server on a flat, stable surface.
5. Open the server according to the instructions on page 43.
6. Follow the ESD precautions described in the previous section when handling a server component.

Post-installation instructions

Perform the steps below after installing a server component.

1. See to it that all components are installed according to the described step-by-step instructions.
2. Reinstall any expansion board(s), peripheral(s), bracket (s) and system cable(s) that have previously been removed.
3. Reinstall the side panel.
4. Reconnect the power, peripheral, and telecommunication cables.
5. Turn on the system.

Opening the server

Caution: Before you proceed, make sure that you have turned off the system and all peripherals connected to it. Read the "Pre-installation instructions" section on page 42.

You need to open the server before you can install upgrade components. The front bezel and (left) side panel are removable to allow access to the server's internal components. Refer to the following sections for instructions.

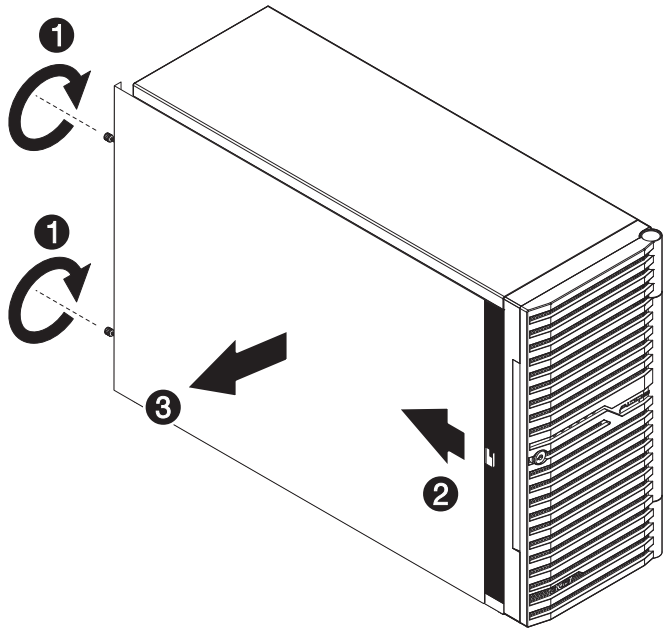
Removing the side panel

1 Perform the pre-installation instructions described on page 41.

2 Unlock the security keylock.

3 Remove the two thumb screws on the back panel.

4 Slide the side panel toward the rear of the chassis to disengage it.



Removing the front bezel

1 Remove the side panel.

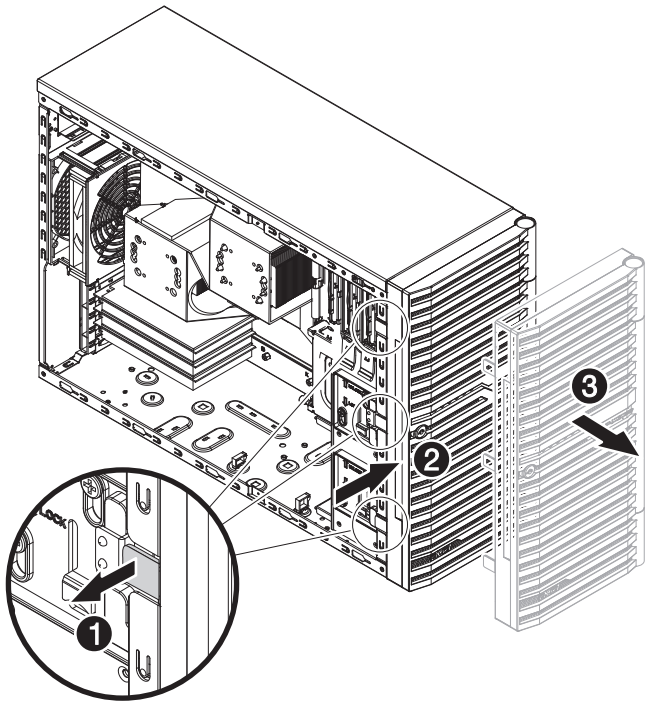
Refer to the previous section for instructions.

2 Remove the front bezel.

(1) Release the bezel door retention tabs from the chassis interior.

(2) Firmly bump the bezel as shown to loosen it.

(3) Pull the bezel away from the chassis.



Configuring the hard drive

The two HDD cage bays of the Altos G540 M2 accommodates both hot-plug and easy-swap HDD cage models. The main difference between these two cage models is the presence of a backplane board on the rear side of the hot-plug HDD cage. Both cage models support up to four SATA2 or SAS hard disk drives.

The system ships out with only a single HDD cage occupying the top cage bay. You have the option to purchase an extra HDD cage to provide the system with additional storage capacity and scalability. Contact your local Acer representative for more information.

The system supports 3.5" or 2.5" HDDs. It cannot support both at once. If the systems ships with the 3.5" HDDs, then any additional HDDs should also be the same size. That goes the same for the 2.5" HDDs.

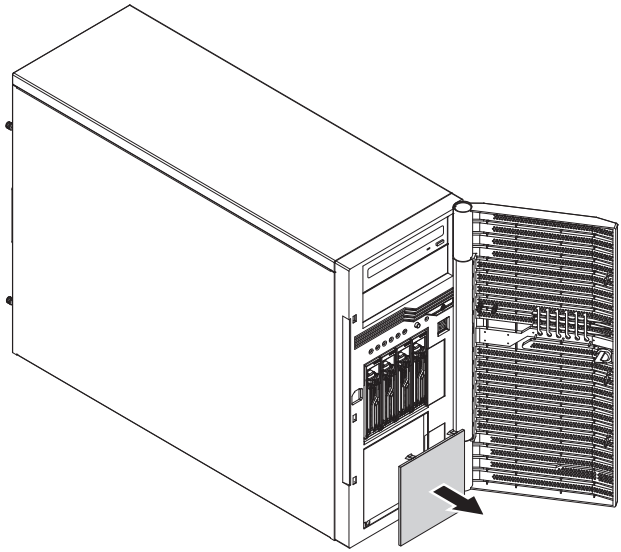
Caution: You cannot mix 3.5" HDDs with 2.5" HDDs on the same system.

Note: The HDD cage comes with HDD dummy covers. You need to purchase a blank HDD carrier to install a hard drive.

Installing a 3.5"HDD cage

1 Perform the pre-installation instructions described on page 41.

2 Remove the plastic cover by releasing it from the latches.

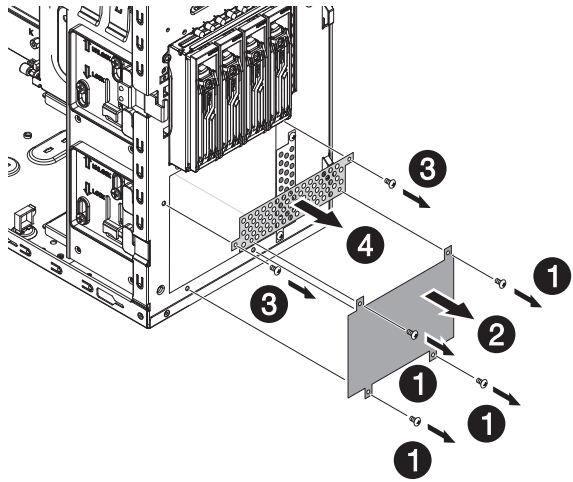


3 Remove the HDD cage bay metal cover from the front chassis.

(1) Remove the screws securing the cover.

(2) Detach the cover from chassis.

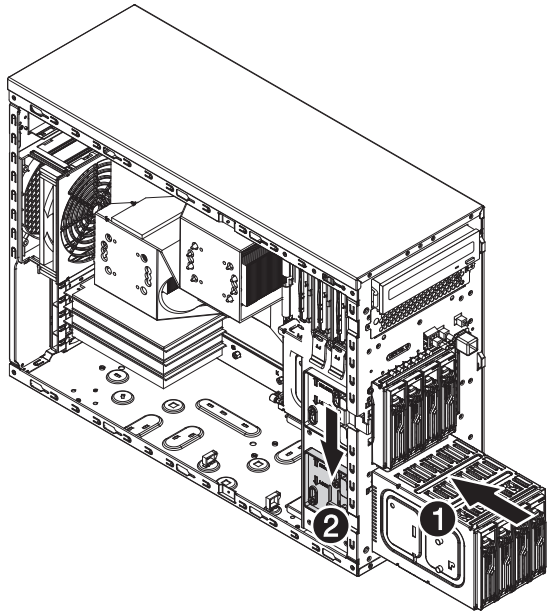
Store this cover for future reinstallation.



4 Install the HDD cage.

(1) Slide the cage into the lower bay with the HDD carriers facing front.

Then lock the cage by sliding the locker down as shown.



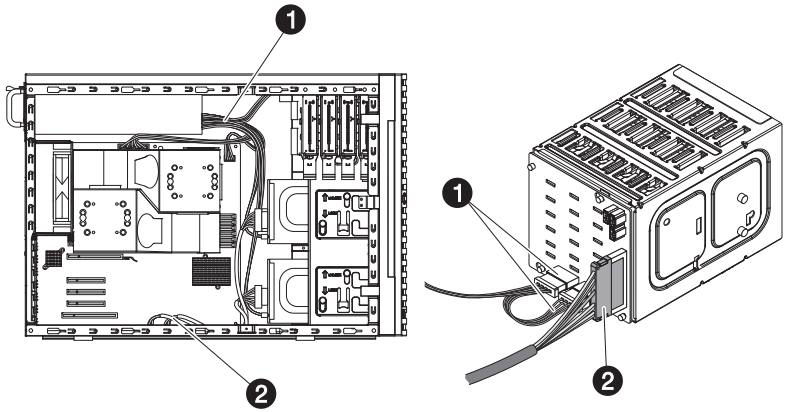
If you have installed a hot-plug HDD cage, proceed to next step for related drive cable connections.

Drive cable connections for an easy-swap HDD can be found on page page 58.

(2) Connect the following cables to the hot-plug HDD cage backplane board.

(1) Connect the hard drive power cables to the CN1 and CN2 connectors of the backplane board.

(2) Connect the SAS/SATA2 cable to the SAS/CON connector of the backplane board.



5 Observe the post-installation instructions described on page 42.

For instructions on how to install a hard drive in an easy-swap HDD cage, go to page 57.

For instructions on how to install a hard drive in a hot-plug HDD cage, go to page 55.

Removing a HDD cage

1 Perform the pre-installation instructions described on page 41.

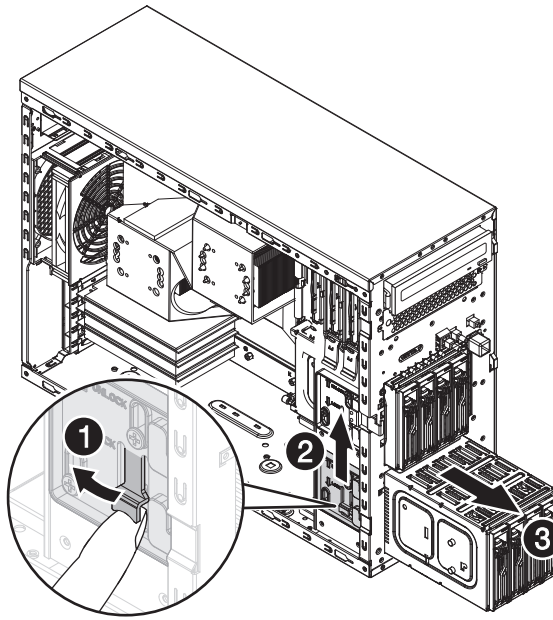
2 Prepare the HDD cage for removal.

- For a hot-plug HDD cage, disconnect the data and power cables from the backplane board, then remove all HDDs from the cage.
- For an easy-swap HDD cage, disconnect the data and power cables from their HDD connectors, then remove all HDDs from the cage.

3 Remove the HDD cage.

(1) Move the release slider all the way up to unlock the hot-plug HDD cage.

(2) Remove the cage from the HDD bay.

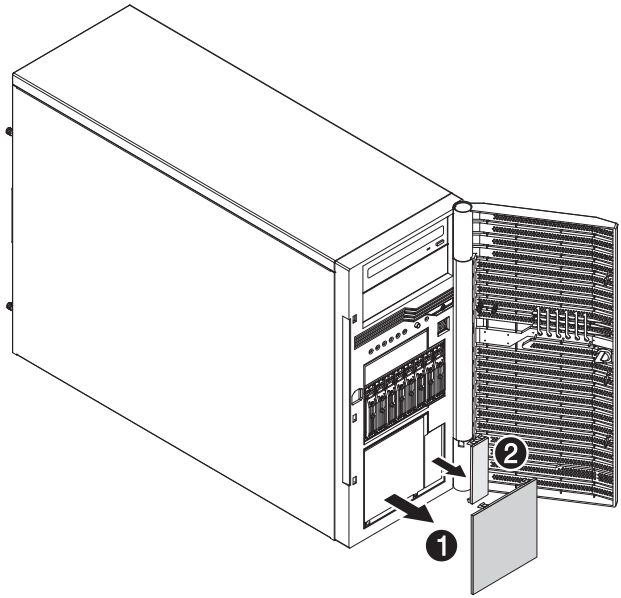


4 Observe the post-installation instructions described on page 42.

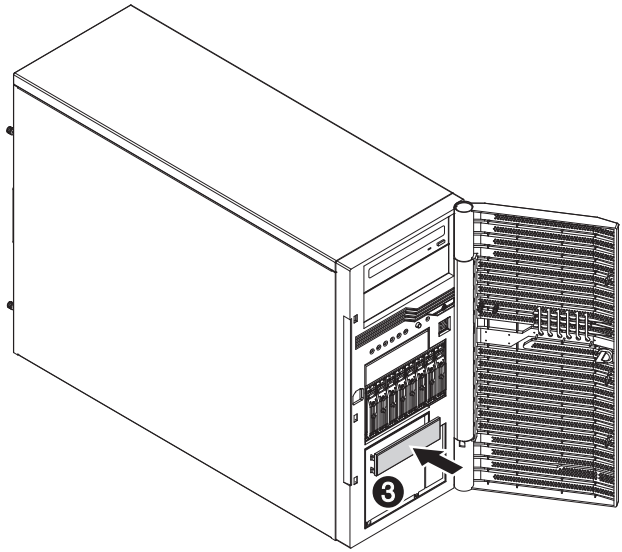
Installing a 2.5“HDD cage

1 Perform the pre-installation instructions described on page 41.

2 Remove the 2 plastic covers by releasing it from the latches.



3 Place the top plastic cover as shown.

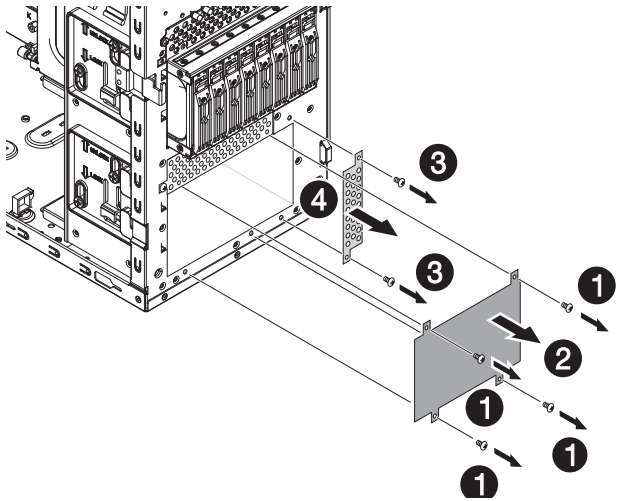


4 Remove the HDD cage bay metal cover from the front chassis.

(1) Remove the screws securing the cover.

(2) Detach the cover from chassis.

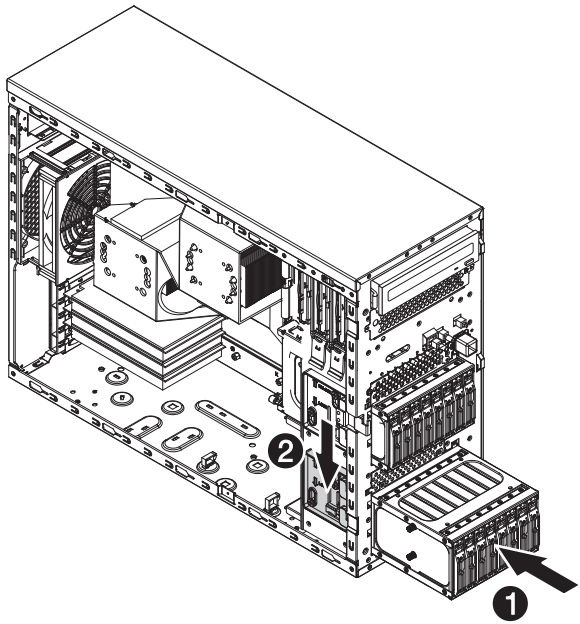
Store this cover for future reinstallation.



5 Install the HDD cage.

(1) Slide the cage into the lower bay with the HDD carriers facing front.

Then lock the cage by sliding the locker down as shown.



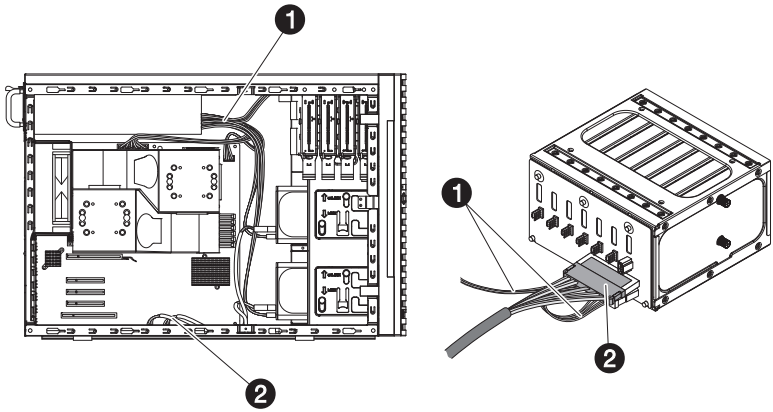
If you have installed a hot-plug HDD cage, proceed to next step for related drive cable connections.

Drive cable connections for an easy-swap HDD can be found on page page 58.

(2) Connect the following cables to the hot-plug HDD cage backplane board.

(1) Connect the hard drive power cables to the CN1 and CN2 connectors of the backplane board.

(2) Connect the SAS/SATA2 cable to the SAS/CON connector of the backplane board.



6 Observe the post-installation instructions described on page 42.

For instructions on how to install a hard drive in an easy-swap HDD cage, go to page 57.

For instructions on how to install a hard drive in a hot-plug HDD cage, go to page 55.

Removing a HDD cage

1 Perform the pre-installation instructions described on page 41.

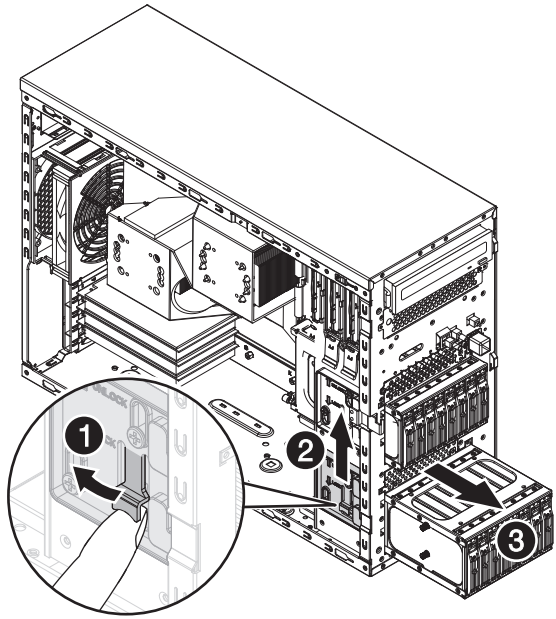
2 Prepare the HDD cage for removal.

- For a hot-plug HDD cage, disconnect the data and power cables from the backplane board, then remove all HDDs from the cage.
- For an easy-swap HDD cage, disconnect the data and power cables from their HDD connectors, then remove all HDDs from the cage.

3 Remove the HDD cage.

(1) Move the release slider all the way up to unlock the hot-plug HDD cage.

(2) Remove the cage from the HDD bay.



4 Observe the post-installation instructions described on page 42.

Installing an additional hard drive

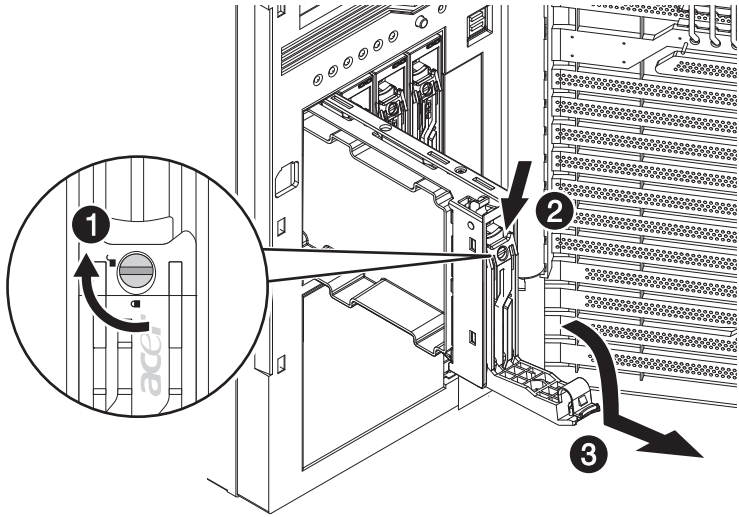
The Altos G540 M2 HDD cage models supports both SATA2 and SAS hard drives in different capacities.

Note: You cannot mix the 3.5" HDD with the 2.5" HDD on the system.

To install 3.5" a hot-plug hard drive:

1 If necessary, unlock the front bezel, then pull it open.

2 Remove the HDD dummy cover from the cage.

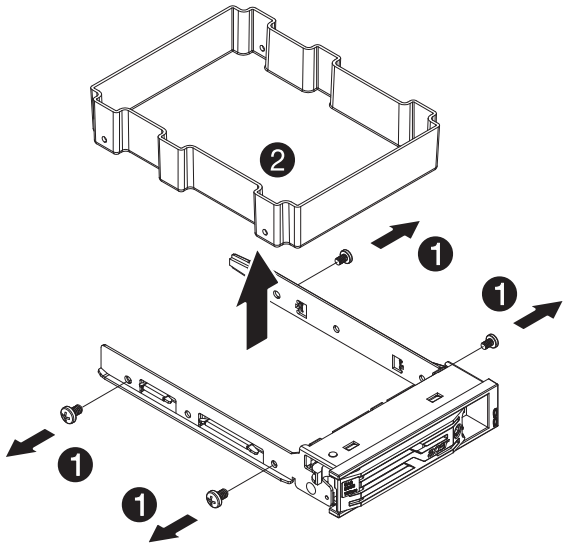


3 Prepare the blank HDD carrier for installation.

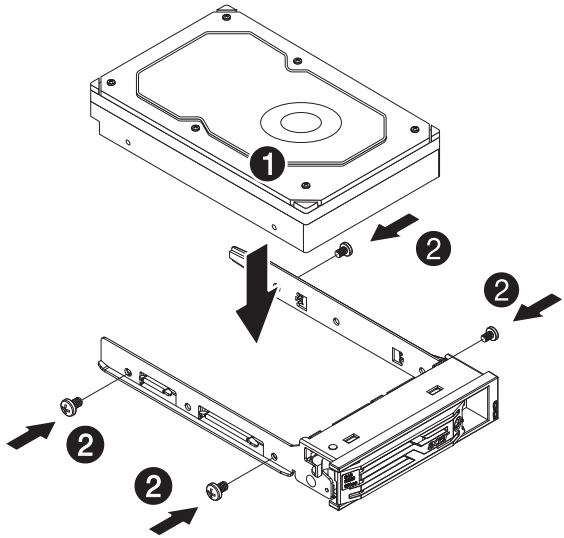
(1) Remove the four screws that secures the blank frame.

You will use these screws to secure the hard disk later.

(2) Detach the plastic frame from the HDD carrier.



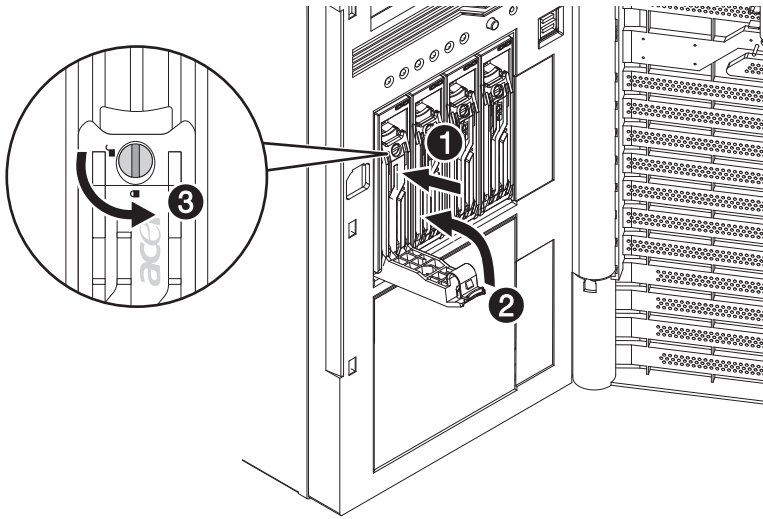
4 Align the new hard disk with the HDD carrier, then secure it with the four screws you removed in step 3-1.



5 Install the new hard drive into the cage.

(1) Slide the drive into the cage with the carrier handle still extended.

(2) Make sure that the drive is properly inserted before pushing the handle back until it clicks into place.



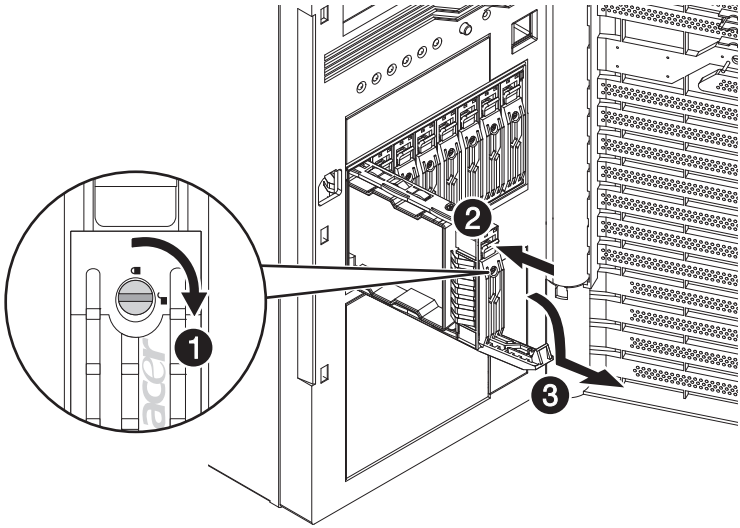
6 Set up the new hard drive's RAID configuration.

For related instructions, go to the "RAID configuration utilities" section on page 150.

To install 2.5" a hot-plug hard drive:

1 If necessary, unlock the front bezel, then pull it open.

2 Remove the HDD dummy cover from the cage.

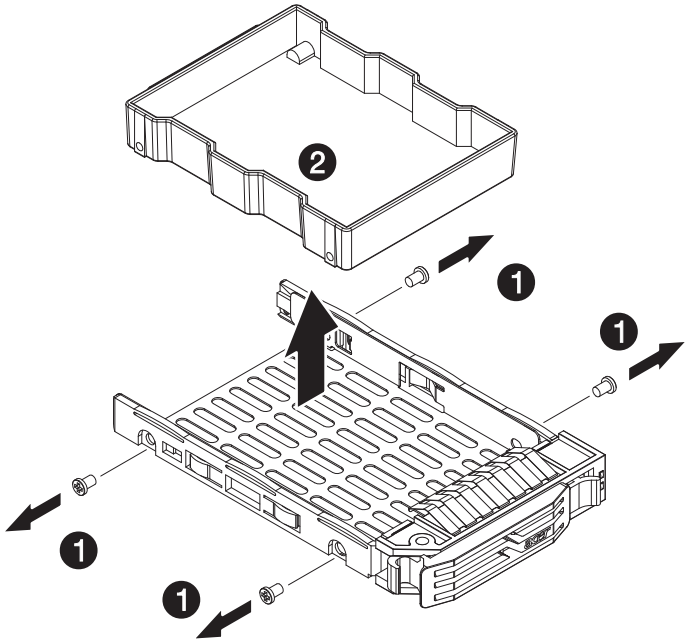


3 Prepare the blank HDD carrier for installation.

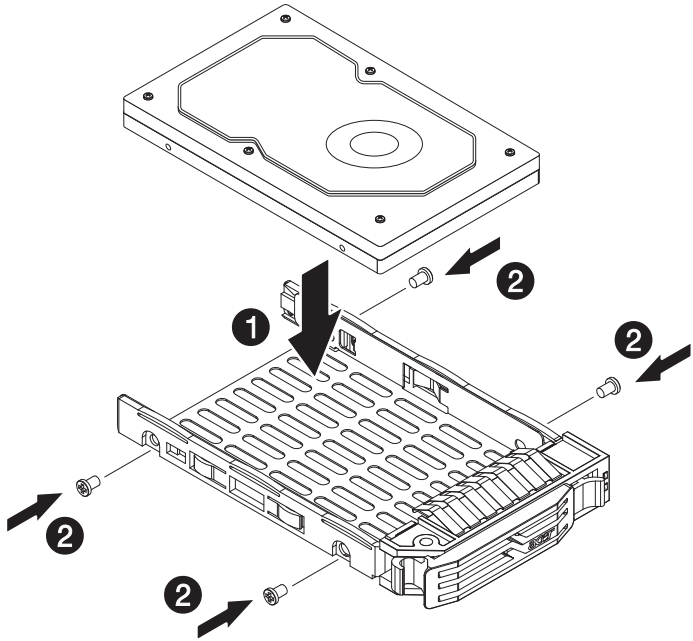
(1) Remove the four screws that secures the blank frame.

You will use these screws to secure the hard disk later.

(2) Detach the plastic frame from the HDD carrier.



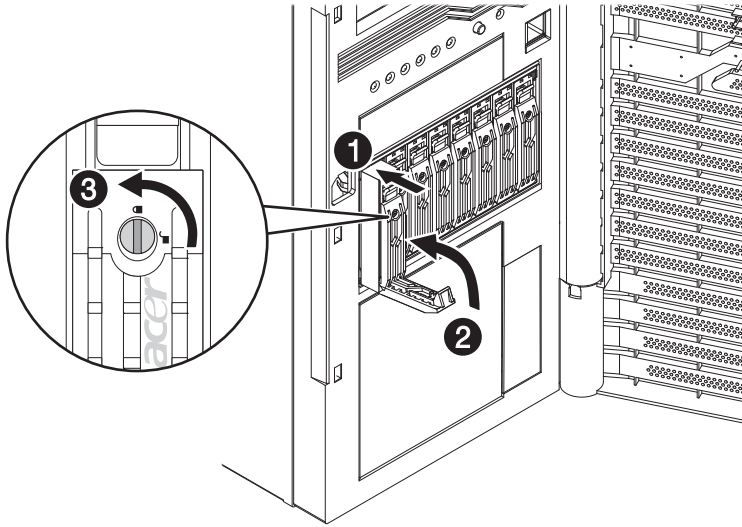
4 Align the new hard disk with the HDD carrier, then secure it with the four screws you removed in step 3-1.



5 Install the new hard drive into the cage.

(1) Slide the drive into the cage with the carrier handle still extended.

(2) Make sure that the drive is properly inserted before pushing the handle back until it clicks into place.



6 Set up the new hard drive's RAID configuration.

For related instructions, go to the "RAID configuration utilities" section on page 150.

Configuring a 5-25 inch storage device

The three 5.25-inch device bays support a variety of storage devices for additional storage capacity and scalability. Go to page 4 for a list of supported storage devices.

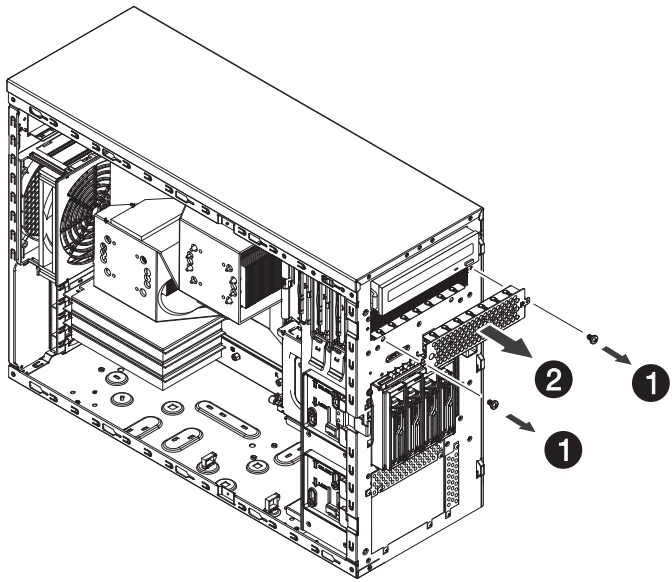
By default, the system ships with a DVD-ROM drive installed on the topmost device bay. You can choose to replace these default drives, or you can install a new storage device on the second device bay.

To install an optional storage device:

1 Perform the pre-installation instructions described on page 41.

2 Remove the two screws that secure the cover of the empty 5.25-inch drive bay **(1)**, then detach the cover **(2)**.

Keep this cover for future reinstallation.

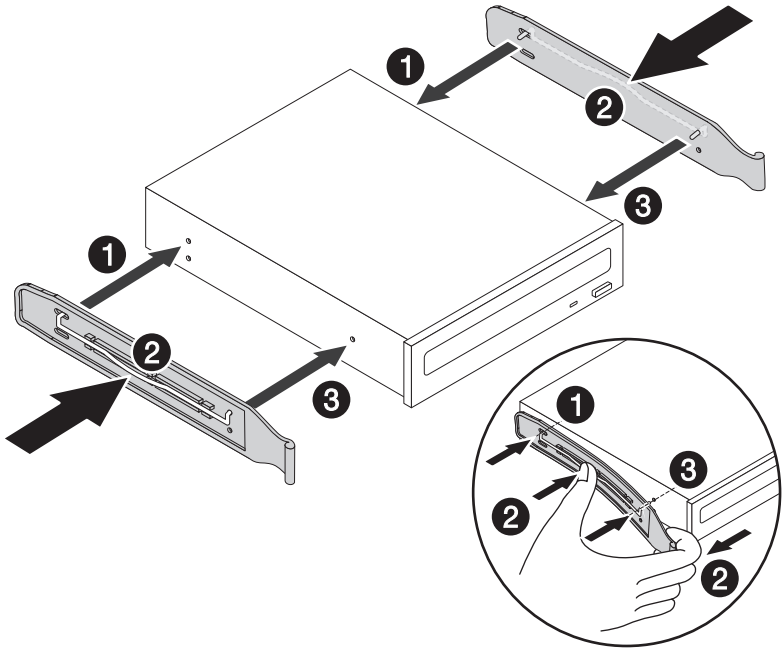


3 Install the new 5.25-inch storage device.

The instructions given below apply to a regular 5.25-inch storage device.

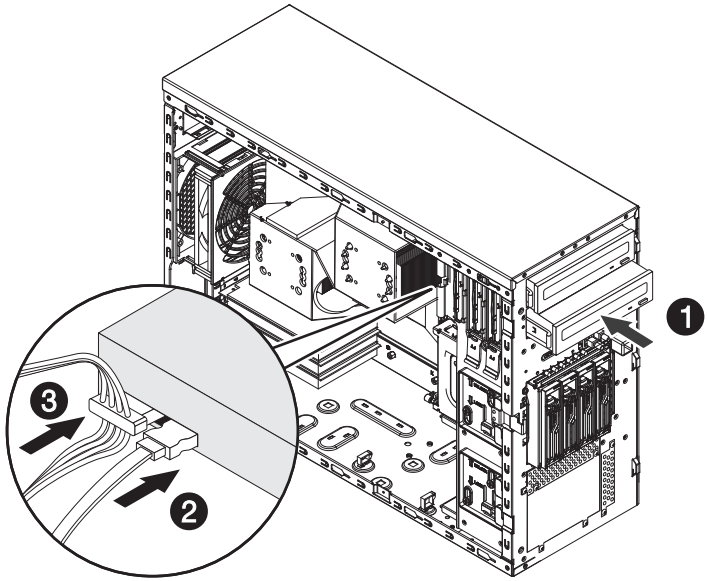
Note: There is an extra bracing lock on the side of the 5.25-in drive cage for installing another 5.25-inch device.

4 Install the bracing lock tab as shown.



(1) Slowly slide the drive into the drive bay.

(2) Connect the power and SATA cables to the new 5.25-inch drive.

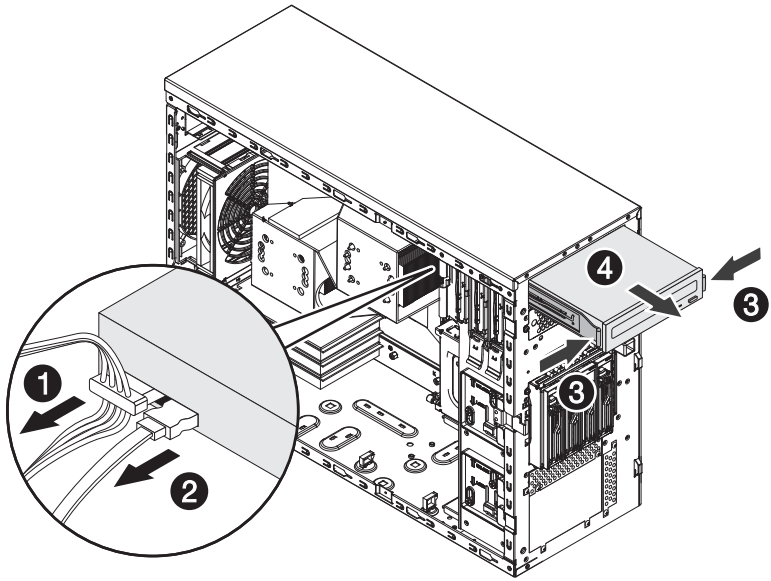


5 Observe the post-installation instructions described on page 42.

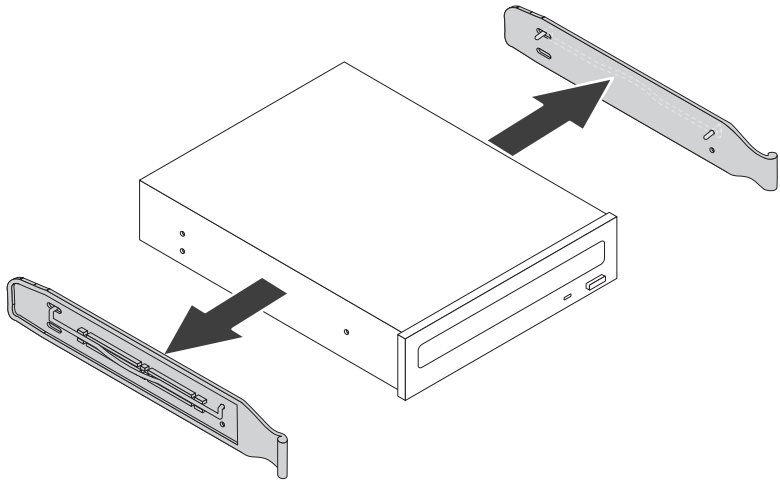
To remove a defective storage device:

1 Perform the pre-installation instructions described on page 41.

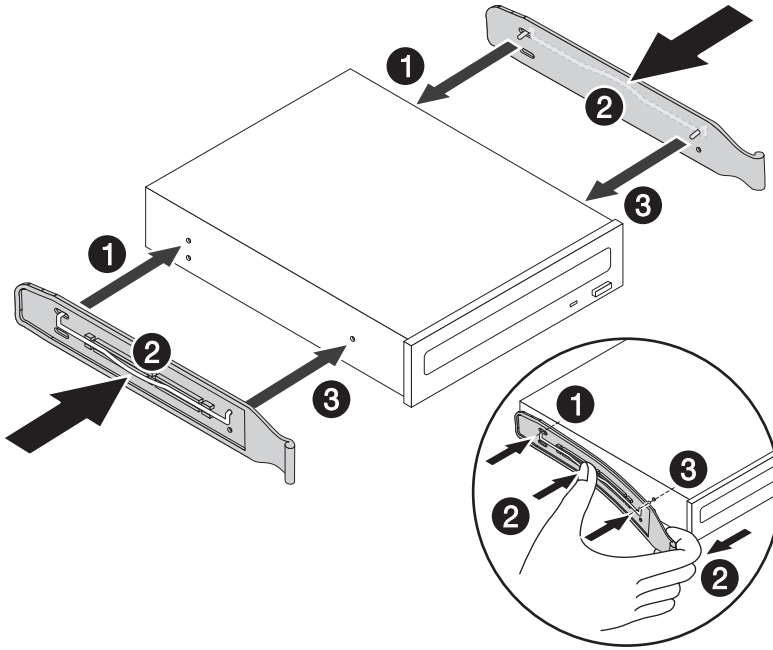
2 Remove the cables as shown (1 and 2). Press on both side of the bracing lock tab (3) and pull out the drive from the drive bay (4).



3 Remove the bracing lock tab from the old DVD drive.

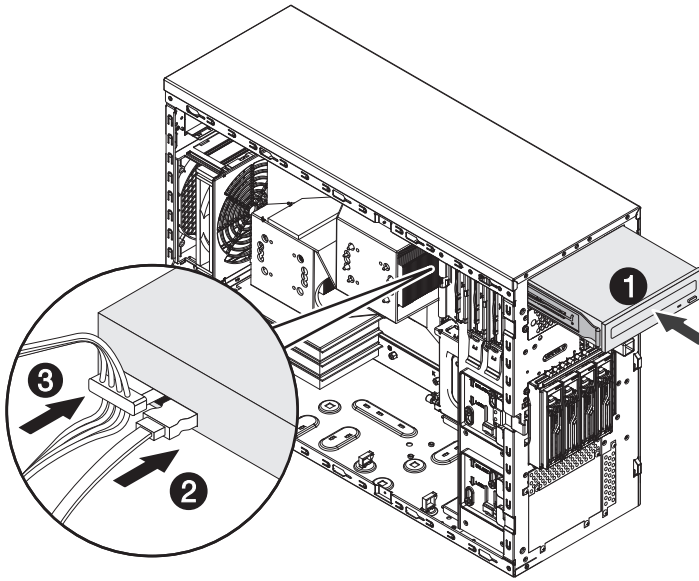


4 Install the bracing lock tab on the new DVD device as shown.



(1) Slowly slide the drive into the drive bay.

(2) Connect the power and SATA cables to the new 5.25-inch drive.



Upgrading the processor

This section explains the procedures for removing and installing the processor and heat sink fan (HSF) assembly.

Processor configuration guidelines

The mainboard supports up to two Intel® Xeon™ processor 5500 series. You have the option to upgrade the default processor or install a second one for a dual-processor configuration.

Observe the following guidelines when replacing or installing a processor.

- The CPU 1 socket must always be populated. If no processor is installed in this socket, the system will fail to boot.
- Before removing a processor, make sure to back up all important system files.
- When installing a second processor, make sure it has same stepping and frequency specifications as the default processor.
- Handle the processor and the HSF assembly carefully. Damage to either may prevent the system from functioning properly.

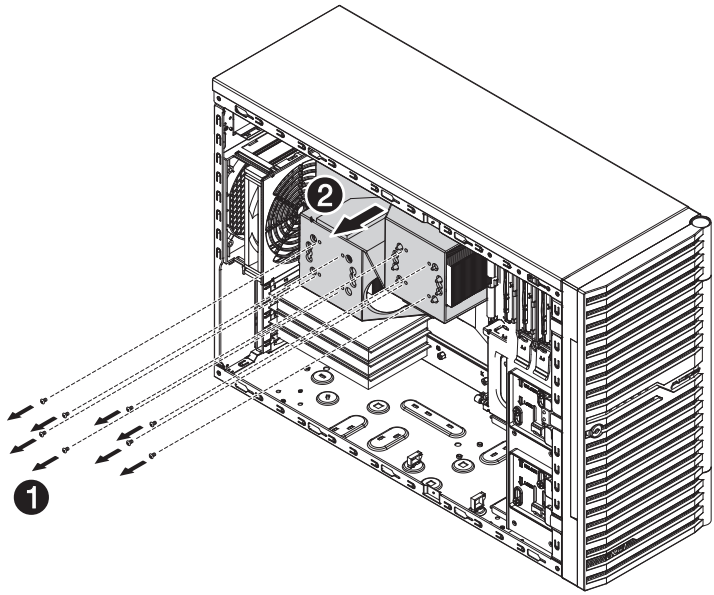
Note: A long-nosed screwdriver is needed to remove/install the HSF assembly.

To upgrade the default processor:

1 Perform the pre-installation instructions described on page 41.

2 Lay the server on its side (components showing).

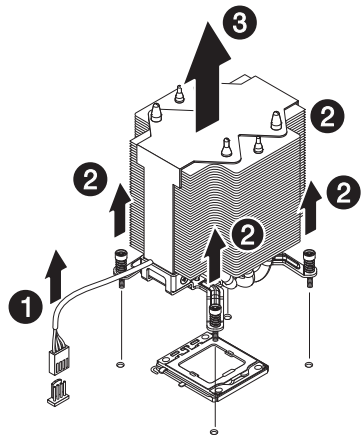
3 Remove the screws securing the HSF air duct assembly. Carefully remove the HSF air duct assembly. Remember to keep the screws in a safe place for later reassembly.



4 Disconnect the processor 1 HSF cable from its mainboard connector and remove the HSF assembly.

(1) Use a long-nosed screwdriver to loosen the four HSF mounting pins.

(2) Once you have loosened all four mounting pins, lift the HSF away from the mainboard.



(3) Lay down the HSF in an upright position—with the thermal patch facing upward. Do not let the thermal patch touch the work surface.

Use an alcohol pad to wipe off the thermal grease from both the HSF assembly and the processor socket retention plate.

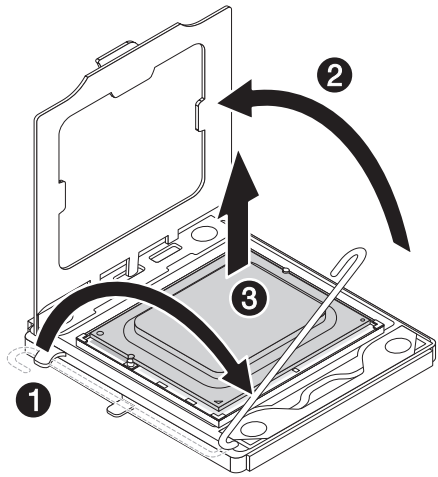
5 Remove the default processor.

Warning! The processor becomes very hot when the system is on. Allow it to cool off first before handling.

(1) Release then lift up the load lever.

(2) Open the retention plate to expose the socket body.

(3) Grasp the processor by its edges and lift it out of its socket.



6 Store the old processor inside an anti-static bag.

7 Remove the new processor from its protective packaging.

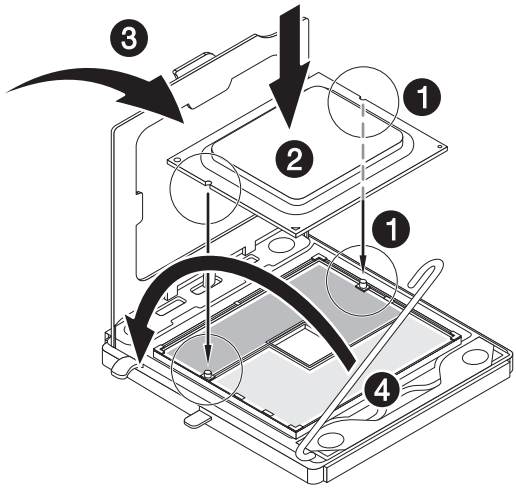
8 Install the new processor.

(1) Hold the processor by its edges, then insert it in the socket.

Make sure that the alignment tabs on the socket fit the two notch located on the edge of the processor. The pins are keyed in such a way that you cannot install the processor in the wrong orientation without bending the pins.

(2) Close the retention plate.

(3) Engage the load lever back into place.



9 Apply the thermal interface material.

(1) Use an alcohol pad to wipe off the old thermal grease from both the HSF assembly and the processor socket retention plate.

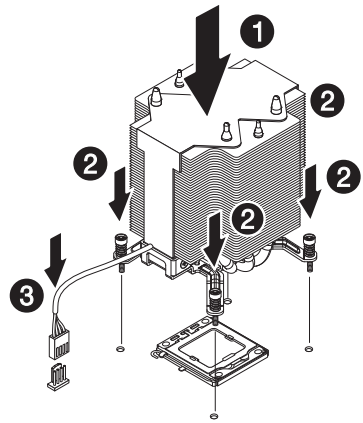
(2) Apply a thin layer of an Acer-approved thermal interface material before installing the HSF.

Make sure that only a *very thin layer* is applied so that both contact surfaces are still visible.

10 Reinstall the HSF assembly.

(1) Align then insert the HSF on top of the retention plate.

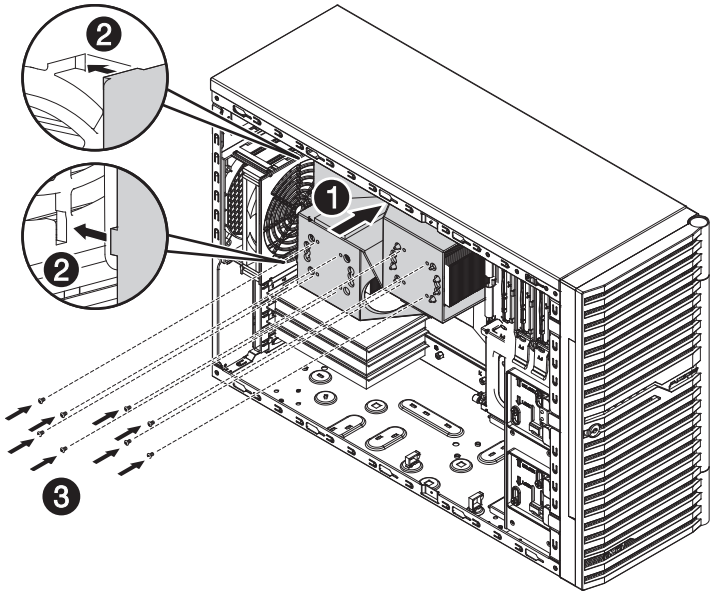
(2) Use a long-nosed screwdriver to tighten the four HSF mounting pins to secure the assembly. Reconnect the HSF cable to its mainboard connector.



Refer to the "Mainboard" section on page 16 for the location of

the HSF connectors.

11 Replace the HSF air duct assembly. Make sure to seat the HSF air duct assembly properly before replacing the screws in place.



12 Observe the post-installation instructions described on page 42.

To install a second processor:

1 Perform steps 1 through 4 of the previous section.

2 Prepare the processor socket 2 for installation.

Refer to steps 5-1 and 5-2 of the previous section.

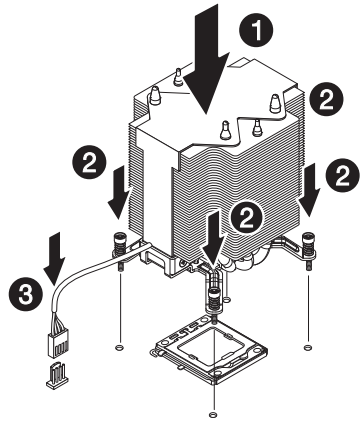
3 Install the new processor.

Refer to steps 7 and 8 of the previous section.

4 Reinstall the HSF assembly.

(1) Align then insert the HSF on top of the retention plate.

(2) Use a long-nosed screwdriver to tighten the four HSF mounting pins to secure the assembly.



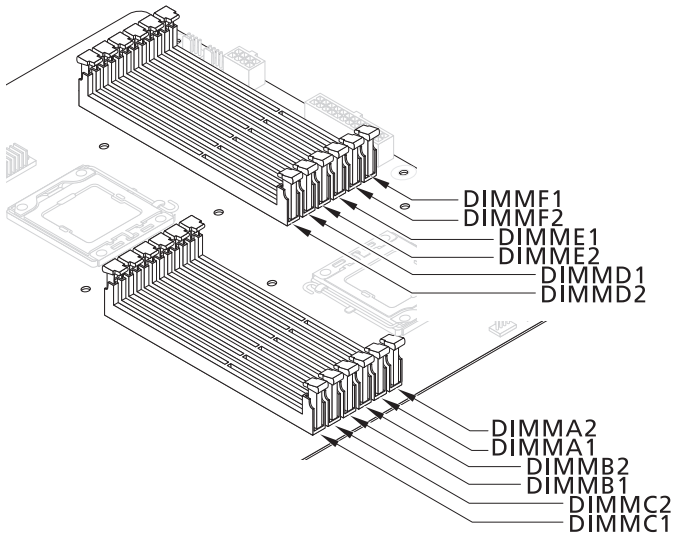
5 Observe the post-installation instructions described on page 42.

Upgrading the system memory

This section explains the procedures for removing and installing a fully-buffered memory module.

Memory Configuration Guideline

Altos G540 M2 has twelve DIMM slots. Each CPU controls six DIMM slots. The DIMM slots support three channel DDR3-1333 registered/ unbuffered ECC memory modules. For CPU1, it will be channel A, B &C. For CPU2, it will be channel D,E &F. Each channel has 2 sockets. The farthest socket to CPU is socket 1 (A1,B1,C1,D1,E1,F1 in color BLUE), while the nearest one is socket 2 (A2,B2,C2,D2,E2,F2 in color black). For all memory modes, the socket 1 in each channel should be populated first. If socket 1 is empty, socket 2 can't be used.



Note:

(1) When you are using a single-processor server, you should install the memory module into DIMM A1 to DIMM C2 slots.

(2) The DIMM D1 to DIMM F2 slots are enabled when a second CPU is installed on the mainboard.

For the system to function, DIMM modules must be installed following the slot sequence listed below. DIMM module of the same type, size and manufacturer must be installed in the same colored DIMM slots.

- CPU 1 - Populate DIMM slots A1 first, followed by slots B1, C1, A2, B2, and C2.
- CPU 2 - Populate DIMM slots D1 first, followed by slots E1, F1, D2, E2, and F2.
- To ensure data integrity, use only Acer-approved 240-pin, DDR3 Registered/Unbufferred DIMM ECC modules in 1 GB, 2 GB, 4 GB, or 8 GB capacities.
- Use identical modules—same specification for size, speed, and organization.

Independent Mode:

Singel processor configuration

Observe the population sequence illustrated in the table below when installing a memory module.

Total Capacity	DIMM A2	DIMM A1	DIMM B2	DIMM B1	DIMM C2	DIMM C1
1GB		1GB				
2GB		1GB		1GB		
3GB		1GB		1GB		1GB
4GB	1GB	1GB	1GB	1GB		
6GB	1GB	1GB	1GB	1GB	1GB	1GB
2GB		2GB				
4GB		2GB		2GB		
6GB		2GB		2GB		2GB
8GB	2GB	2GB	2GB	2GB		
12GB	2GB	2GB	2GB	2GB	2GB	2GB

Total Capacity	DIMM A2	DIMM A1	DIMM B2	DIMM B1	DIMM C2	DIMM C1
4GB		4GB				
8GB		4GB		4GB		
12GB		4GB		4GB		4GB
16GB	4GB	4GB	4GB	4GB		
24GB	4GB	4GB	4GB	4GB	4GB	4GB
8GB*		8GB				
16GB*		8GB		8GB		
24GB*		8GB		8GB		8GB
32GB*	8GB	8GB	8GB	8GB		
48GB*	8GB	8GB	8GB	8GB	8GB	8GB

Note: *Support depends on 8GB DIMM available

Dual processor configuration

Observe the population sequence illustrated in the table below when installing a memory module.

Total Capacity	DIMM											
	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1	F2
2GB	1 GB						1 GB					
3GB	1 GB		1 GB		1 GB							
4GB	1 GB		1 GB				1 GB		1 GB			
6GB	1 GB		1 GB		1 GB		1 GB		1 GB		1 GB	
8GB	1 GB	1 GB	1 GB	1 GB			1 GB	1 GB	1 GB	1 GB		
9GB	1 GB	1 GB	1 GB	1 GB	1 GB	1 GB	1 GB		1 GB		1 GB	
12GB	1 GB	1 GB	1 GB	1 GB	1 GB	1 GB	1 GB	1 GB	1 GB	1 GB	1 GB	1 GB
4GB	2 GB						2GB					
6GB	2 GB		2 GB		2 GB							
8GB	2 GB		2 GB				2 GB		2 GB			
12GB	2 GB		2 GB		2 GB		2 GB		2 GB		2 GB	
16GB	2 GB	2 GB	2 GB	2 GB			2 GB	2 GB	2 GB	2 GB		

Total Capacity	DIMM											
	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1	F2
18GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB		2 GB		2 GB	
24GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB
8GB	4 GB						4 GB					
12GB	4 GB		4 GB		4 GB							
16GB	4 GB		4 GB				4 GB		4 GB			
24GB	4 GB		4 GB		4 GB		4 GB		4 GB		4 GB	
32GB	4 GB	4 GB	4 GB	4 GB			4 GB	4 GB	4 GB	4 GB		
36GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB		4 GB		4 GB	
48GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB
16GB*	8 GB						8 GB					
24GB*	8 GB		8 GB		8 GB							
32GB*	8 GB		8 GB				8 GB		8 GB			
48GB*	8 GB		8 GB		8 GB		8 GB		8 GB		8 GB	
64GB*	8 GB	8 GB	8 GB	8 GB			8 GB	8 GB	8 GB	8 GB		
72GB*	8 GB	8 GB	8 GB	8 GB	8 GB		8 GB		8 GB		8 GB	
96GB*	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB	8 GB

Note: *Support depends on 8GB DIMM available

Mirroring or Lockstep mode :

- Mirroring mode & Lockstep mode need the channel A & channel B with identical DIMMs. A1 and B1 should be the same type, size and manufacturer. A2 and B2 memory should be the same type, size and manufacturer.
- Channel C has no function in this mode.
- Same rule is applied to the CPU2 memory channel D,E,F.
- For mirroring mode, the memory contain a primary image and a copy of the primary image. Therefore, the effective size of memory is reduced by at least one-half.

Single Processor Configuration

Total Capacity	DIMM A2	DIMM A1	DIMM B2	DIMM B1	DIMM C2	DIMM C1
2GB		1GB		1GB		
4GB	1GB	1GB	1GB	1GB		
4GB		2GB		2GB		
8GB	2GB	2GB	2GB	2GB		
8GB		4GB		4GB		
16GB	4GB	4GB	4GB	4GB		
16GB*		8GB		8GB		
32GB*	8GB	8GB	8GB	8GB		

Note: *Support depends on 8GB DIMM available

Dual Processor Configuration

Total Capacity	DIMM											
	A2	A1	B2	B1	C2	C1	D2	D1	E2	E1	F2	F1
2GB		1GB		1GB								
4GB		1GB		1GB				1GB		1GB		
6GB	1GB	1GB	1GB	1GB				1GB		1GB		
8GB	1GB	1GB	1GB	1GB			1GB	1GB	1GB	1GB		
4GB		2GB		2GB								
8GB		2GB		2GB				2GB		2GB		
12GB	2GB	2GB	2GB	2GB				2GB		2GB		
16GB	2GB	2GB	2GB	2GB			2GB	2GB	2GB	2GB		
8GB		4GB		4GB								
16GB		4GB		4GB				4GB		4GB		
24GB	4GB	4GB	4GB	4GB				4GB		4GB		
32GB	4GB	4GB	4GB	4GB			4GB	4GB	4GB	4GB		
16GB*		8GB		8GB								
32GB*		8GB		8GB				8GB		8GB		
48GB*	8GB	8GB	8GB	8GB				8GB		8GB		
64GB*	8GB	8GB	8GB	8GB			8GB	8GB	8GB	8GB		

Note: *Support depends on 8GB DIMM available

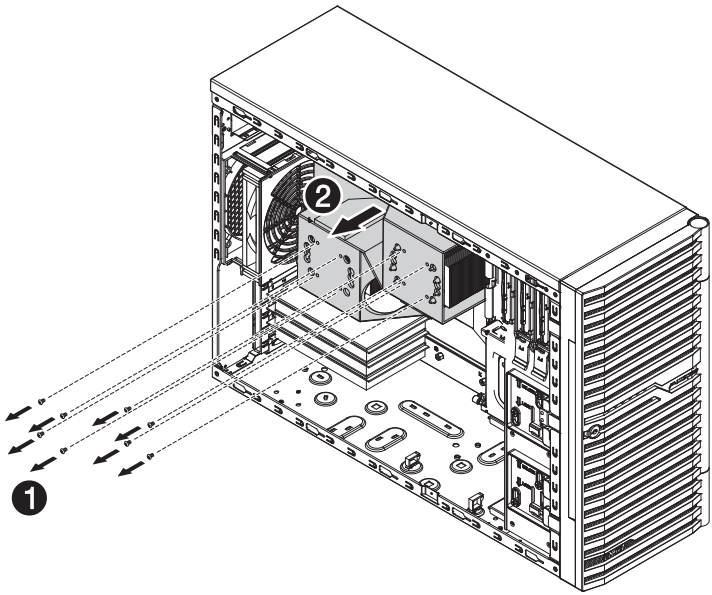
To remove a DDR3 Registered/Unbufferred DIMM:

Important: Before removing a DDR3 Registered/Unbufferred DIMM, make sure to back up all important system files. Also, note that DDR3 Registered/Unbufferred DIMMs should be removed in pairs.

1 Perform the pre-installation instructions described on page 41.

2 Lay the server on its side (components showing).

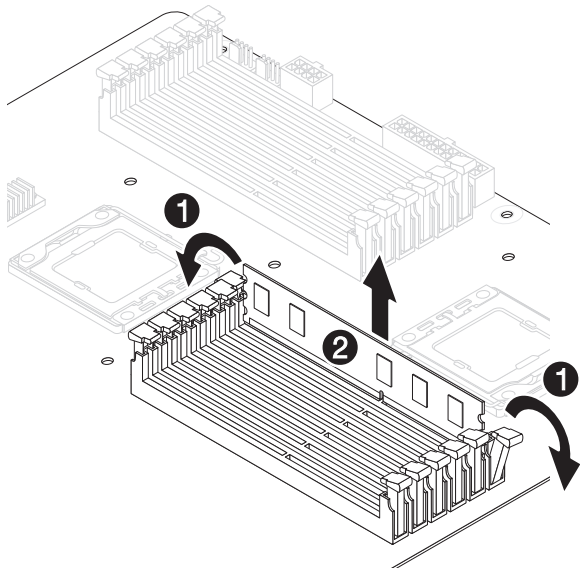
3 Remove the HSF air duct assembly to access to the DDR3 Registered/Unbufferred DIMM slots.



4 Remove the DDR3 Registered/Unbufferred DIMM.

(1) Press the holding clips on both sides of the socket outward to release the DIMM.

(2) Gently pull the DIMM upward to remove it from the socket.



5 If you intend to install a new DDR3 Registered/Unbufferred DIMM, proceed to the next section for related procedure, otherwise reinstall the air duct, then observe the post-installation instructions described on page 42.

To install an DDR3 Registered/Unbufferred DIMM:

1 Perform steps 1 through 3 of the previous section.

2 Select an empty DDR3 Registered/Unbufferred DIMM slot.

3 If necessary, open the holding clips of the selected DDR3 Registered/Unbufferred DIMM slot.

4 Remove the new DDR3 Registered/Unbufferred DIMM from its protective packaging, handling it by the edges.

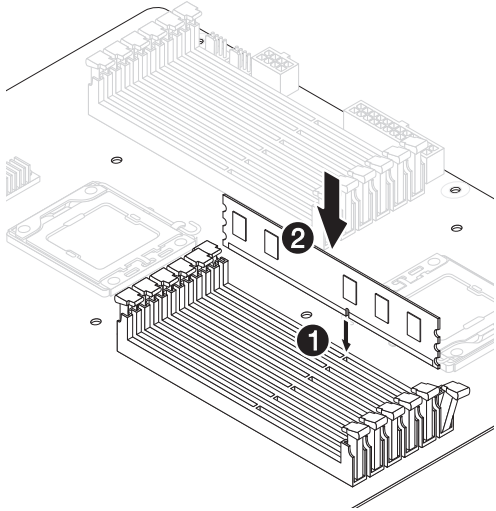
5 Install the DDR3 Registered/Unbufferred DIMM.

(1) Align the DDR3 Registered/Unbufferred DIMM so that the notch on the slot fits the keyed edge of the module, then press the module at both ends to seat it fully into the slot.

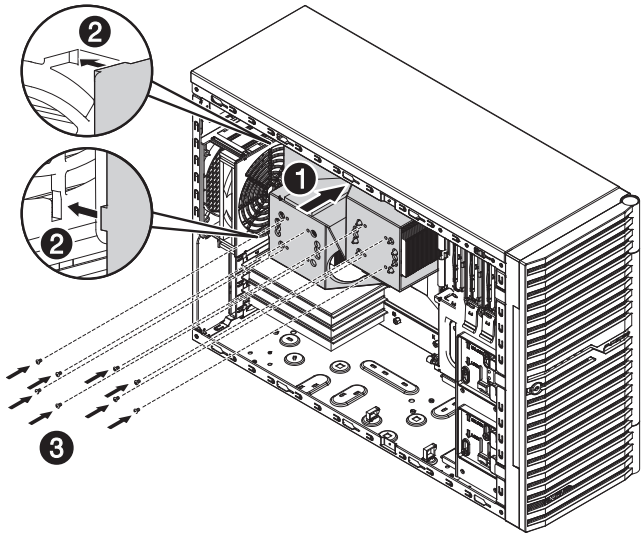
If you insert an DDR3 Registered/Unbufferred DIMM but it does not fit easily into the slot, you have inserted it incorrectly. Reverse the orientation of the module and insert it again.

(2) Firmly press the holding clips inward to lock the DDR3 Registered/Unbufferred DIMM in place.

If the holding clips do not close, the DDR3 Registered/ Unbufferred DIMM is not properly inserted.



6 Reinstall the air duct.



7 Observe the post-installation instructions described on page 42.

The system automatically detects the amount of memory installed. Run the BIOS setup to view the new value for total system memory and make a note of it.

Installing an expansion card

This section explains how to install an expansion card.

I/O interface

Altos G540 M2 has five PCI Express® and PCI expansion slots, namely:

- One PCI Express® 2.0 x16 slot
- Two PCI Express® 2.0 x8 slots (with eight PCI Express® 2.0 lanes)
- One PCI Express® x8 slot (with four PCI Express® lanes)
- One PCI (32-bit / 3.3 V) slot

To install an expansion card:

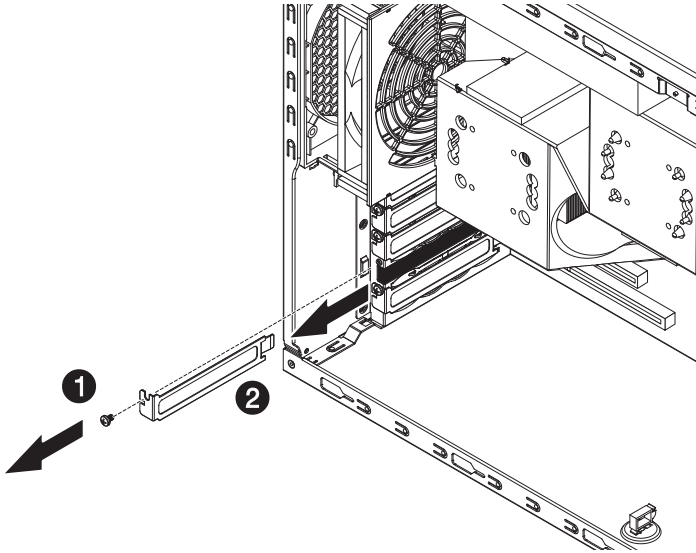
1 Perform the pre-installation instructions described on page 41.

2 If necessary, remove any cables that prevent access to the processor sockets.

3 Locate an empty expansion slot that is compatible with the specification of the card you intend to install.

4 Install the expansion card.

(1) Remove the screw securing the slot cover of the selected expansion slot. Set aside the screw as it will be used to secure the expansion card later on.



(2) Pull out the slot cover and store it for reassembly later.

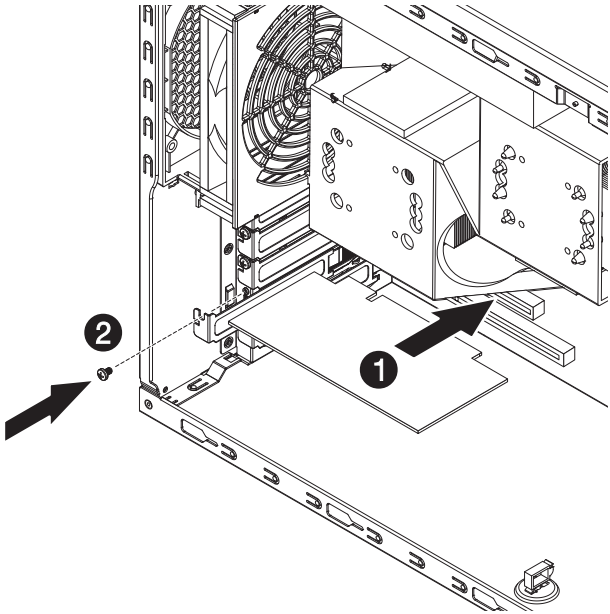
Caution: Do not discard the slot cover. If the expansion card is removed in the future, the slot cover must be reinstalled to maintain proper system cooling.

Remove the expansion card from its protective packaging, handling it by the edges.

(3) Insert the card into the selected slot.

Make sure that the card is properly seated.

Replace the screw to secure the card in place.



(4) Connect the necessary cables to the expansion card as required.

5 Observe the post-installation instructions described on page 42.

When you turn on the system, the BIOS setup automatically detects and assigns resources to the new device (applicable only to Plug-and-Play expansion cards).

Installing the TPM module

The optional TPM module allows system administrators to enhance the security of Altos G540 M2 system.

To install the TPM module:

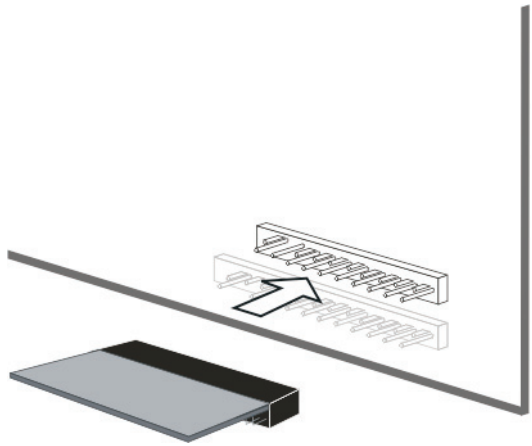
1 Perform the pre-installation instructions described on page 30.

2 Locate the TPM module connector. If necessary, remove any boards or cables that prevent access to it.

3 Remove the TPM module from its protective packaging, handling it by the edges.

4 Install the TPM module.

(1) Insert the TPM module into the TPM module connector.



5 Observe the post-installation instructions described on page 42.

Installing the System Fan module

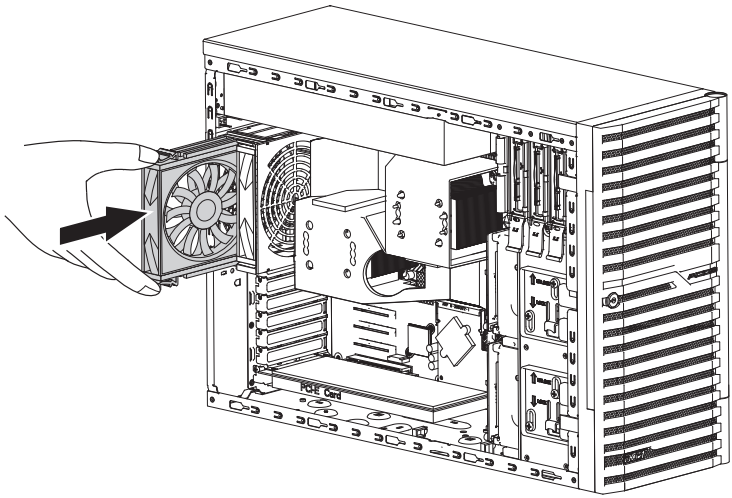
The optional System Fan module enhances the stability of Altos G540 M2 system by cooling it in a humid area.

To install the System Fan module:

1 Perform the pre-installation instructions described on page 30.

2 Remove the new System Fan module from its protective packaging.

3 Install the new System Fan module by sliding it into an empty slot as shown.

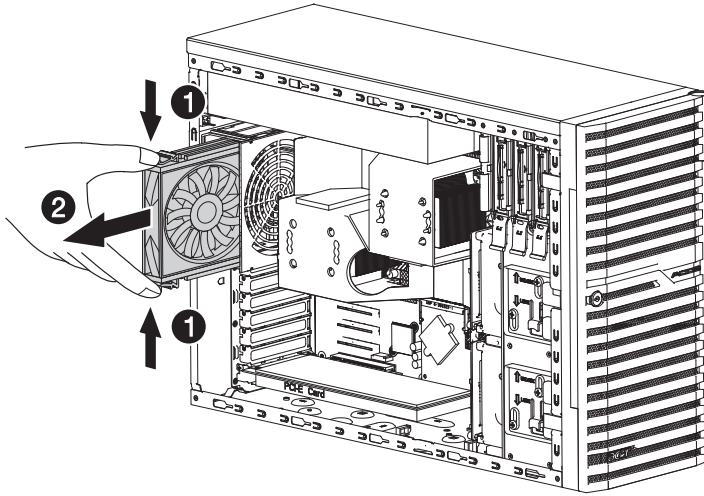


4 Observe the post-installation instructions described on page 42.

Removing a defective System Fan module:

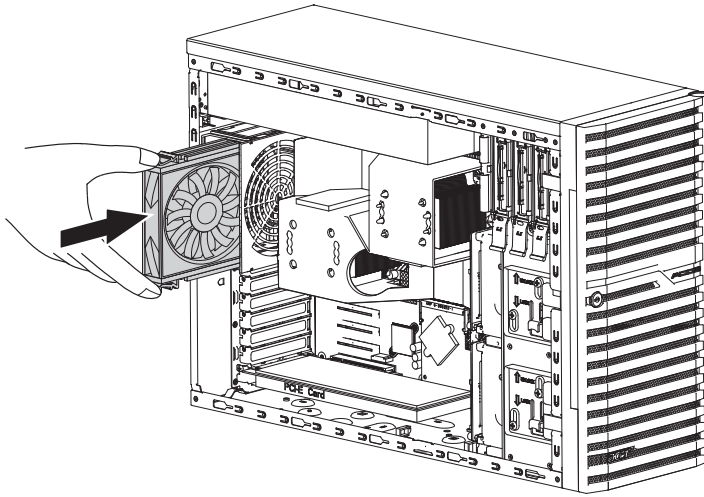
1 Perform the pre-installation instructions described on page 30.

2 Grip the top and bottom tabs on the module and slowly pull out the defective System Fan module.



3 Remove the new System Fan module from its protective packaging.

4 Install the new System Fan module by sliding it into an empty slot as shown.



Installing a redundant power supply module

The Altos G540 M2 supports two 610-watts hot-swap power supply modules. The system ships out with only one power supply module installed. You have the option to install a second module to provide the system with a redundant power source. A redundant power configuration enables a fully-configured system to continue running even if one of the power supply module fails.

WARNING! To reduce the risk of personal injury or damage to the equipment, the installation of power supply modules should be referred to individuals who are qualified to service server systems and are trained to deal with equipment capable of generating hazardous energy levels.

WARNING! To reduce the risk of personal injury from hot surfaces, observe the thermal labels on each power supply modules. You can also consider wearing protective gloves.

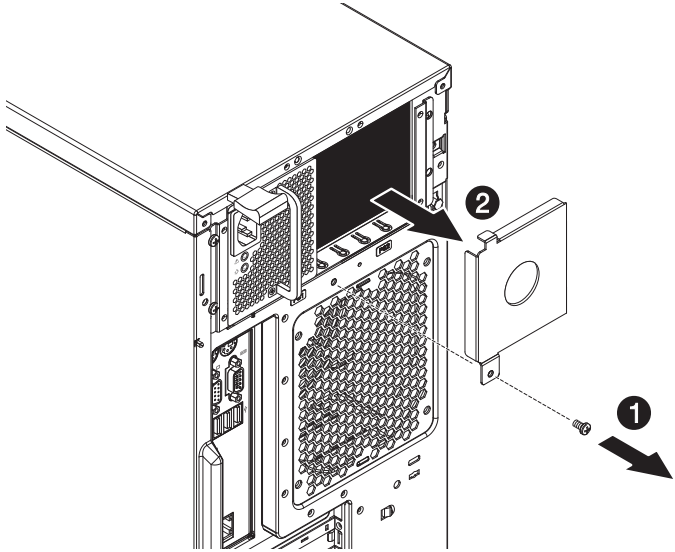
WARNING! To reduce the risk of personal injury from electric shock hazards, do not open the power supply module. There are no serviceable parts inside the module.

Caution! Electrostatic discharge can damage electronic components. Make sure that you are properly grounded before handling a power supply module.

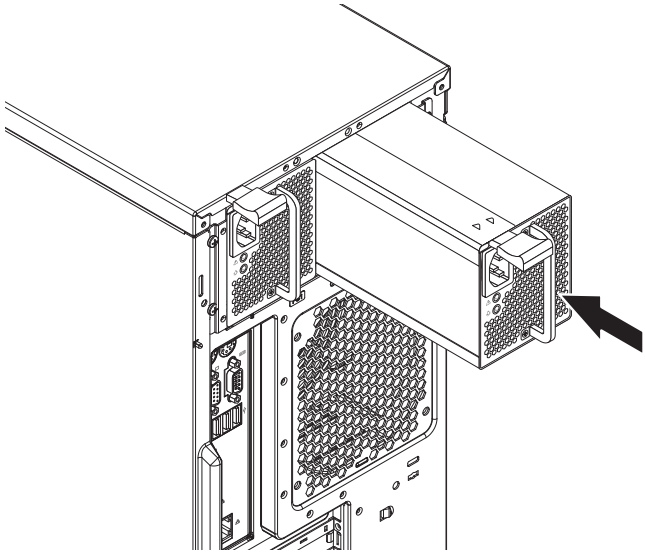
To install a hot-swap power supply module:

1 **Detach the cover from the chassis.**

Keep the cover for future reassembly.



2 Slide the module into the empty bay until you feel resistance, and it locks into place.



3 Verify that the power status indicators on the main power supply and on the newly installed redundant power supply are illuminated green.

4 System BIOS

This chapter gives information about the system BIOS and discusses how to configure the system by changing the settings of the BIOS parameters.

BIOS overview

BIOS setup is a hardware configuration program built into the system's Basic Input/Output System (BIOS). Since most systems are already properly configured and optimized, there is no need to run this utility. You will need to run this utility under the following conditions.

- When changing the system configuration settings
- When redefining the communication ports to prevent any conflicts
- When modifying the power management configuration
- When changing the password or making other changes to the security setup
- When a configuration error is detected by the system and you are prompted ("Run Setup" message) to make changes to the BIOS setup

Note: If you repeatedly receive Run Setup messages, the battery may be bad. In this case, the system cannot retain configuration values in CMOS. Ask a qualified technician for assistance.

BIOS setup loads the configuration values in a battery-backed nonvolatile memory called CMOS RAM. This memory area is not part of the system RAM which allows configuration data to be retained when power is turned off.

Before you run the *Phoenix*BIOS Setup Utility, make sure that you have saved all open files. The system reboots immediately after you close the Setup.

Note: *Phoenix*BIOS Setup Utility will be simply referred to as "Setup" or "Setup utility" in this guide.

The screenshots used in this guide display default system values. These values may not be the same those found in your system.

Entering BIOS setup

1 Turn on the server and the monitor.

   If the server is already turned on, close all open applications, then restart the server.

2 During POST, press **F2**.

   If you fail to press **F2** before POST is completed, you will need to restart the server.

   The Setup Main menu will be displayed showing the Setup's menu bar. Use the left and right arrow keys to move between selections on the menu bar.

BIOS setup primary menus

The tabs on the Setup menu bar correspond to the seven primary BIOS Setup menus, namely:

- Main
- Advanced
- Power
- Security
- Server
- Boot
- Exit

In the descriptive table following each of the menu screenshots, settings in **boldface** are the default and suggested settings.

BIOS setup navigation keys

Use the following keys to move around the Setup utility.

- **Left** and **Right** arrow keys – Move between selections on the menu bar.
- **Up** and **Down** arrow keys – Move the cursor to the field you want.
- **PgUp** and **PgDn keys** – Move the cursor to the previous and next page of a multiple page menu.
- **Home** – Move the cursor to the first page of a multiple page menu.
- **End** – Move the cursor to the last page of a multiple page menu.
- **+** and **-** keys – Select a value for the currently selected field (only if it is user-configurable). Press these keys repeatedly to display each possible entry, or the **Enter** key to choose from a pop-up menu.

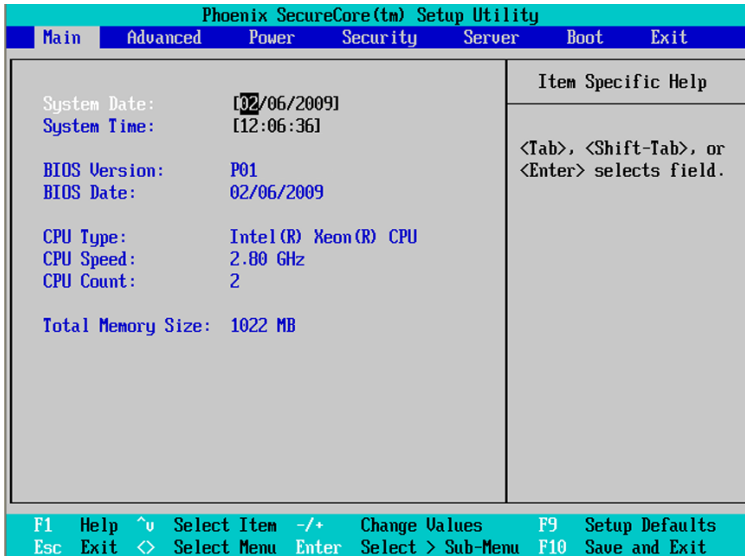
  Note: Grayed-out fields are not user-configurable.

- **Enter** key – Display a submenu screen.

  Note: Availability of submenu screen is indicated by a (>).

- **Esc** – If you press this key:
  - On one of the primary menu screens, the Exit menu displays.
  - On a submenu screen, the previous screen displays.
  - When you are making selections from a pop-up menu, closes the pop-up without making a selection.
- **F1** – Display the BIOS setup General Help panel.
- **F9** – Press to load default system values.
- **F10** – Save changes made the Setup and close the utility.

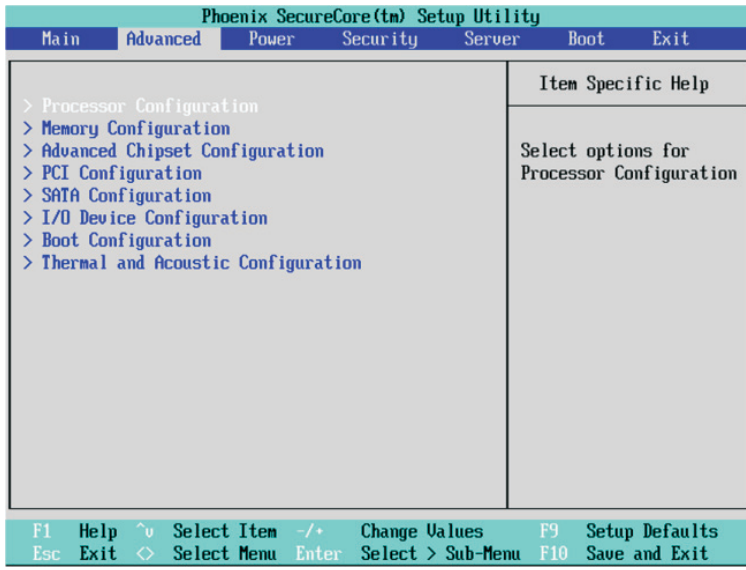
Main menu



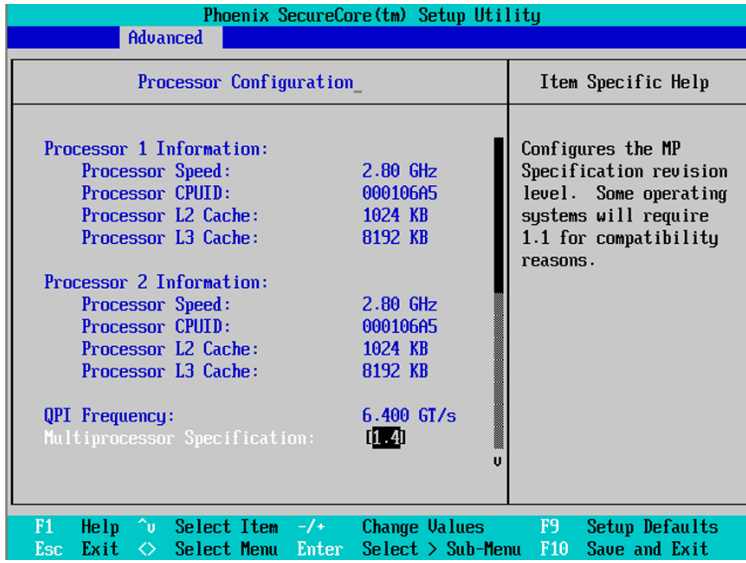
Parameter	Description
System Time	Sets the system time following the hour-minute-second format.
System Date	Sets the date following the weekday-month-day-year format.
BIOS Version	Version number of the BIOS setup utility
BIOS Date	Date when the BIOS setup utility was created
CPU Type CPU Speed CPU Count	Technical specifications for the installed processor
Extended Memory	Total size of extended memory detected during POST

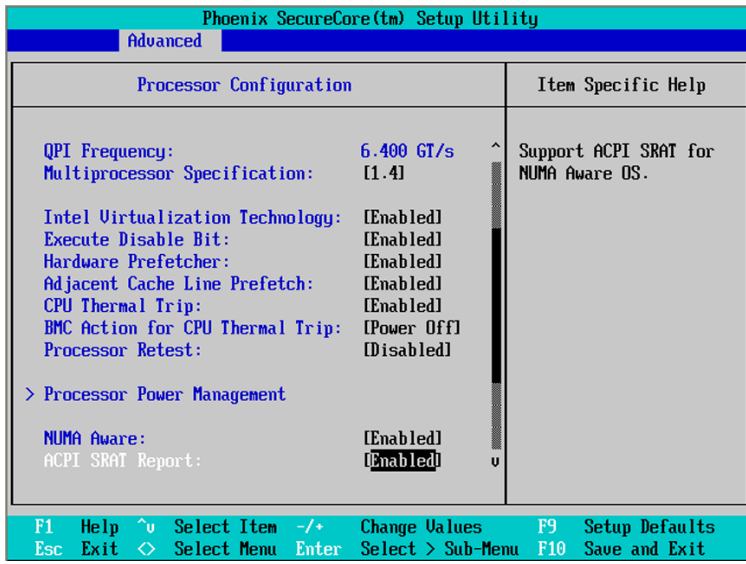
Advanced menu

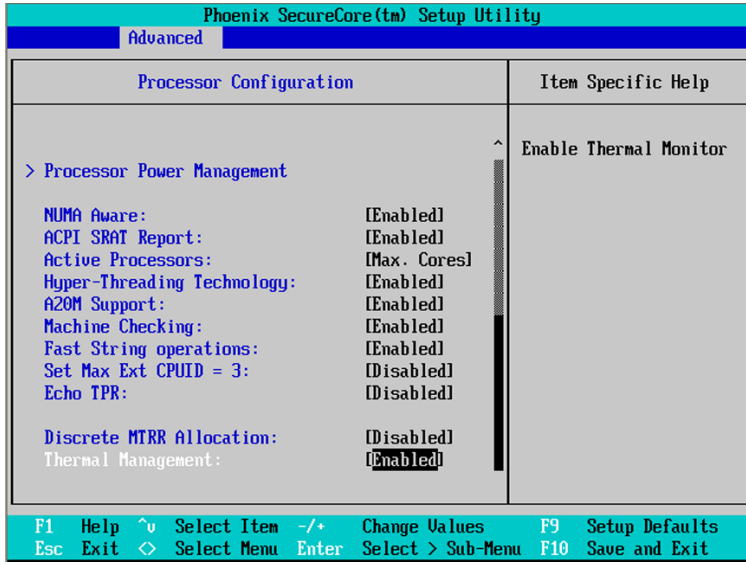
The Advanced menu display submenu options for configuring the function of various hardware components. Select a submenu item, then press **Enter** to access the related submenu screen.



Processor Configuration


Phoenix SecureCore(tm) Setup Utility
Advanced
Processor Configuration
Item Specific Help
Processor 1 Information:
Processor Speed: 2.80 GHz
Processor CPUID: 000106A5
Processor L2 Cache: 1024 KB
Processor L3 Cache: 8192 KB
Processor 2 Information:
Processor Speed: 2.80 GHz
Processor CPUID: 000106A5
Processor L2 Cache: 1024 KB
Processor L3 Cache: 8192 KB
QPI Frequency: 6.400 GT/s
Multiprocessor Specification: [1.4]
Configures the MP Specification revision level. Some operating systems will require 1.1 for compatibility reasons.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit


Phoenix SecureCore(tm) Setup Utility
Advanced
Processor Configuration
Item Specific Help
QPI Frequency: 6.400 GT/s
Multiprocessor Specification: [1.4]
Intel Virtualization Technology: [Enabled]
Execute Disable Bit: [Enabled]
Hardware Prefetcher: [Enabled]
Adjacent Cache Line Prefetch: [Enabled]
CPU Thermal Trip: [Enabled]
BMC Action for CPU Thermal Trip: [Power Off]
Processor Retest: [Disabled]
> Processor Power Management
NUMA Aware: [Enabled]
ACPI SRAT Report: [Enabled]
Support ACPI SRAT for NUMA Aware OS.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

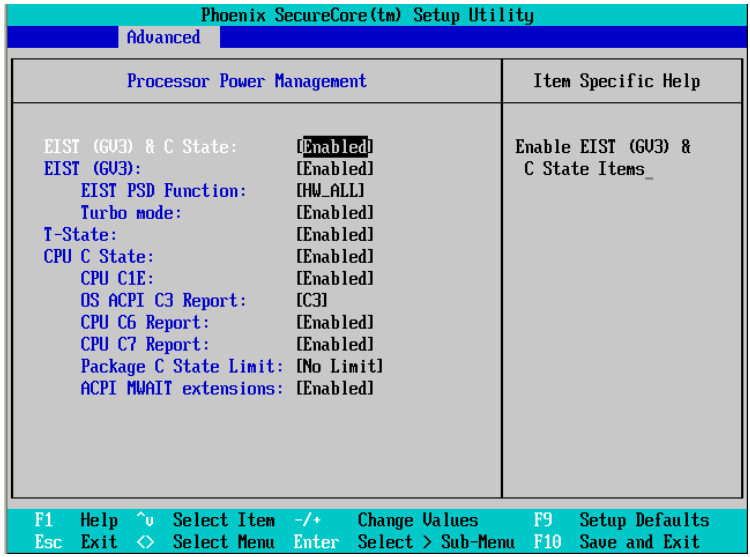

Phoenix SecureCore(tm) Setup Utility
Advanced
Processor Configuration
Item Specific Help
Enable Thermal Monitor
> Processor Power Management
NUMA Aware: [Enabled]
ACPI SRAT Report: [Enabled]
Active Processors: [Max. Cores]
Hyper-Threading Technology: [Enabled]
A20M Support: [Enabled]
Machine Checking: [Enabled]
Fast String operations: [Enabled]
Set Max Ext CPUID = 3: [Disabled]
Echo TPR: [Disabled]
Discrete MTRR Allocation: [Disabled]
Thermal Management: [Enabled]
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Parameter	Description	Option
Processor 1 Information	Displays the processor 1 information.	
Processor 2 Information	Displays the processor 2 information.	
CPU Speed	The processor speed is the speed at which a microprocessor executes instructions. Clock speeds are expressed in megahertz (MHz), with 1 MHz being equal to 1 million cycles per second. The faster the clock, the more instructions the CPU can execute per second.	
Processor CPUID	Processor ID number	
Processor L2 Cache	Processor second-level cache size detected during POST	
Processor L3 Cache	Processor third-level cache size detected during POST	
QPI Frequency	Displays the QPI Frequency	

Parameter	Description	Option
Multiprocessor Specifications	Sets the multiprocessor specifications.	1.1 **1.4**
Intel Virtualization Technology	Select whether to enable the Intel Virtualization Technology function. VT allows a single platform to run multiple operating systems in independent partitions.	**Enabled** Disabled
Execute Disable Bit	Enables/Disables Execute Disable Bit	**Enabled** Disabled
Hardware Prefetcher	Features that reduces the latency associated with memory reads.	**Enabled** Disabled
Adjacent Cache Line Prefetch	Features that reduces cache latency by making the next cache line immediately available if the processor requires it as well.	**Enabled** Disabled
CPU Thermal Trip	A signal that tell the system what course of action to take as set in **BMC Action of CPU Thermal Trip** in response to overheating.	**Enabled** Disabled
BMC Action for CPU Thermal Trip	Set what course of action to take in the event of a CPU Thermal Trip.	No Action **Power Off** Power Cycle
Processor Retest	Select whether to delete the historical processor data log. Processor(s) will be retested on the next boot-up.	Enabled **Disabled**
Processor Power Management	Manages the processor power. Press “Enter” to see the options available. See “Processor Power Management” on page 108 for more information.	
NUMA Aware	Enables or Disables the Non-Uniform Memory Architecture.	**Enabled** Disabled

Parameter	Description	Option
ACPI SRAT Report	Enables or Disables the Advanced Configuration and Power Interface (ACPI) Static Resource Affinity Table (SRAT)	**Enabled** Disabled
Active Processor Cores	Sets the number of active processor cores	**Max. Cores** One Cores Two Cores
Hyperthreading Technology	Select whether to enable the Intel Hyper-Threading (HT) Technology function. HT enables the host operating system to view a single physical processor to appear as two logical processors. This can boost performance in OS and applications that are HT-compliant.	**Enabled** Disabled
A20M Support	Enables or Disables the A20M support.	**Enabled** Disabled
Machine Checking	Enables or Disables machine checking.	**Enabled** Disabled
Fast String operations	Enables or Disables fast string operations.	**Enabled** Disabled
Set Max Ext CPUID = 3	Enables or Disables set max ext CPUID = 3.	Enabled **Disabled**
Echo TPR	Enables or Disables echo TPR.	Enabled **Disabled**
Discrete MTRR Allocation	Enables or Disables Discrete MTRR allocation.	Enabled **Disabled**
Thermal Management	Enables or Disables thermal management.	**Enabled** Disabled

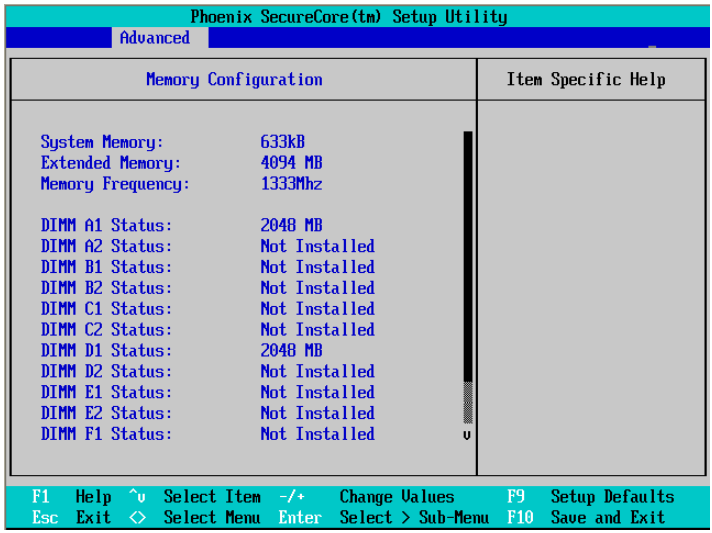
Processor Power Management

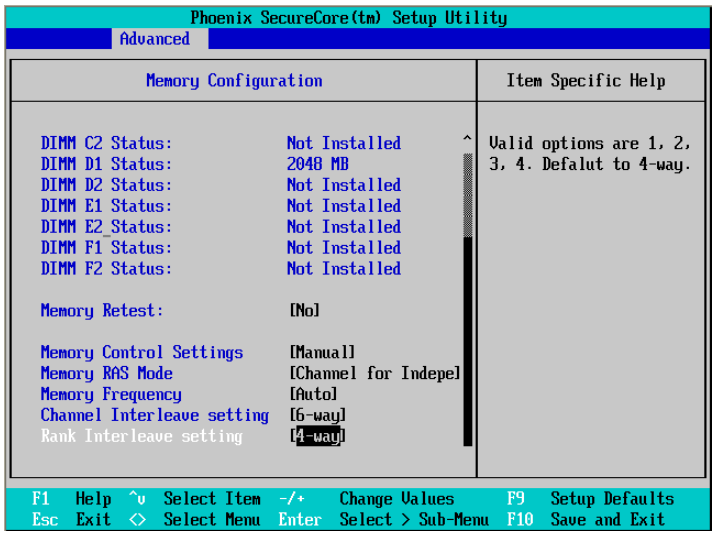

Phoenix SecureCore(tm) Setup Utility
Advanced
Processor Power Management
Item Specific Help
EIST (GV3) & C State: [Enabled]
EIST (GV3): [Enabled]
EIST PSD Function: [HW_ALL]
Turbo mode: [Enabled]
T-State: [Enabled]
CPU C State: [Enabled]
CPU C1E: [Enabled]
OS ACPI C3 Report: [C3]
CPU C6 Report: [Enabled]
CPU C7 Report: [Enabled]
Package C State Limit: [No Limit]
ACPI MWAIT extensions: [Enabled]
Enable EIST (GV3) & C State Items_
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Parameter	Description	Option
EIST (GV3) & C State	Enables or Disables the EIST (GV3) & C State.	**Enabled** Disabled
EIST (GV3)	Enables or Disables the EIST (GV3).	**Enabled** Disabled
EIST PSD Function	Sets the EIST PSD Function.	SW_ALL SW_ANY **HW_ALL**
Turbo Mode	Enables or Disables the Turbo Mode.	**Enabled** Disabled
T-State	Enables or Disables the T-State.	**Enabled** Disabled
CPU C State	Enables or Disables the CPU C State.	**Enabled** Disabled

Parameter	Description	Option
CPU C1E	Enables or Disables the CPU C1E.	**Enabled** Disabled
OS ACPI C3 Report	Sets the OS ACPI C3 report.	Disable C2 **C3**
CPU C6 Report	Enables or Disables the CPU C6 report.	**Enabled** Disabled
CPU C7 Report	Enables or Disables the CPU C7 report.	**Enabled** Disabled
Package C State Limit	Sets the Package C State Limit.	C0 C1 C3 C6 C7 **No Limit**
ACPI MWAIT Extensions	Enables or Disables the ACPI MWAIT extensions.	**Enabled** Disabled

Advanced Memory Configuration

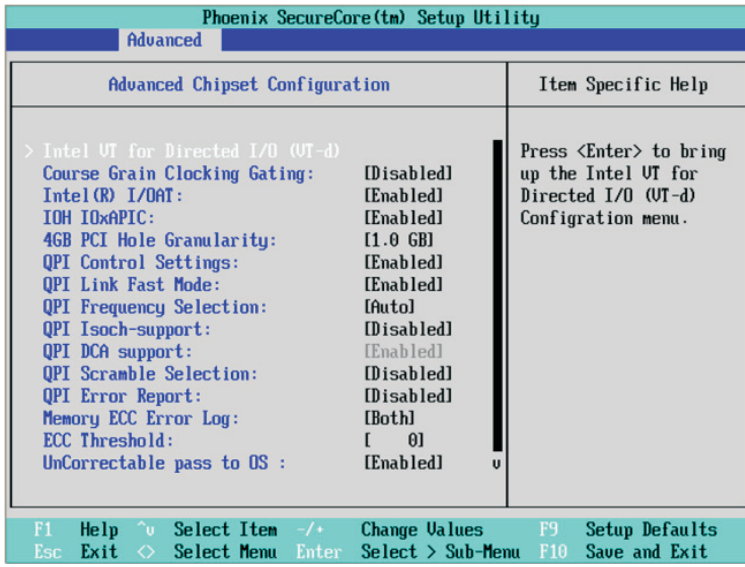

Phoenix SecureCore(tm) Setup Utility
Advanced
Memory Configuration
Item Specific Help
System Memory: 633kB
Extended Memory: 4094 MB
Memory Frequency: 1333Mhz
DIMM A1 Status: 2048 MB
DIMM A2 Status: Not Installed
DIMM B1 Status: Not Installed
DIMM B2 Status: Not Installed
DIMM C1 Status: Not Installed
DIMM C2 Status: Not Installed
DIMM D1 Status: 2048 MB
DIMM D2 Status: Not Installed
DIMM E1 Status: Not Installed
DIMM E2 Status: Not Installed
DIMM F1 Status: Not Installed
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit


Phoenix SecureCore(tm) Setup Utility
Advanced
Memory Configuration
Item Specific Help
DIMM C2 Status: Not Installed
DIMM D1 Status: 2048 MB
DIMM D2 Status: Not Installed
DIMM E1 Status: Not Installed
DIMM E2_Status: Not Installed
DIMM F1 Status: Not Installed
DIMM F2 Status: Not Installed
Memory Retest: [No]
Memory Control Settings [Manual]
Memory RAS Mode [Channel for Indepe]
Memory Frequency [Auto]
Channel Interleave setting [6-way]
Rank Interleave setting [4-way]
Valid options are 1, 2, 3, 4. Defalut to 4-way.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Parameter	Description	Option
System Memory	Total size of system memory detected during POST	

Parameter	Description	Option
Extended Memory	Total size of extended memory detected during POST	
DIMM Group A1-A2 to F1 to F2 Status	The size of memory installed on each of the DDR3 Registered/Unbufferred DIMM slots.	
Memory Retest	Select whether to delete the historical memory data log. System memory will be retested on the next boot-up.	Yes **No**
Memory Control Settings	Sets the memory control settings.	**Auto** Manual
Memory RAS Mode	Sets the memory RAS mode.	**Independent** Mirror Lock Spare
Memory Frequency	Sets the memory frequency.	**Auto** DDR3-800 DDR3-1067 DDR3-1333
Channel Interleave Setting	Sets the channel interleave setting.	1-way 2-way 3-way 4-way **6-way**
Rank Interleave Setting	Sets the rank interleave setting	1-way 2-way **4-way**

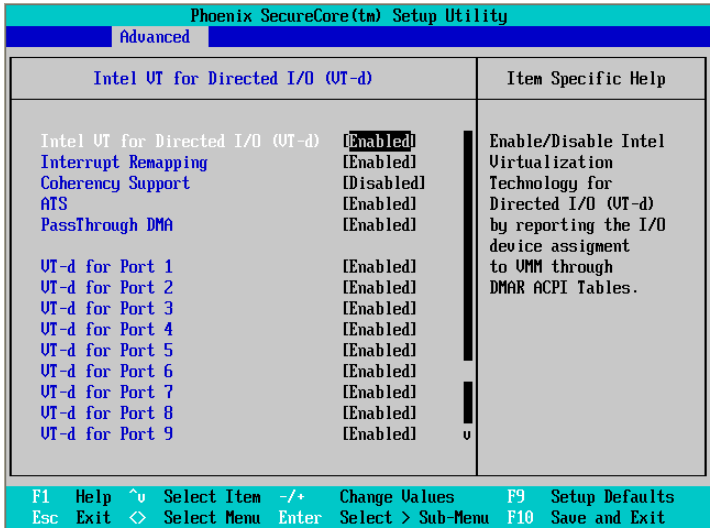
Advanced Chipset Control

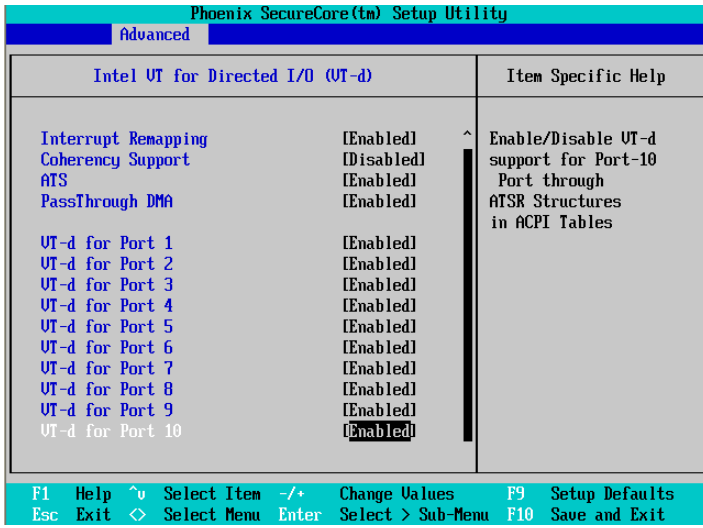

Phoenix SecureCore(tm) Setup Utility
Advanced
Advanced Chipset Configuration
Item Specific Help
> Intel VT for Directed I/O (VT-d)
Course Grain Clocking Gating: [Disabled]
Intel(R) I/OAT: [Enabled]
IOH IOxAPIC: [Enabled]
4GB PCI Hole Granularity: [1.0 GB]
QPI Control Settings: [Enabled]
QPI Link Fast Mode: [Enabled]
QPI Frequency Selection: [Auto]
QPI Isoch-support: [Disabled]
QPI DCA support: [Enabled]
QPI Scramble Selection: [Disabled]
QPI Error Report: [Disabled]
Memory ECC Error Log: [Both]
ECC Threshold: [0]
UnCorrectable pass to OS : [Enabled]
Press <Enter> to bring up the Intel VT for Directed I/O (VT-d) Configration menu.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Parameter	Description	Option
Intel VT for Directed I/O (VT-d)	Press “Enter” to see the options available. See“Intel VT for Directed I/O (VT-d)” on page 114 for more information.	
Course Grain Clocking Gating	Enable or Disables the Course Grain Clocking Gating.	Enabled **Disabled**
Intel (R) I/OAT	Enables or Disables the Intel I/OAT.	**Enabled** Disabled
IOH IOxAPIC	Enables or Disables the IOH IOxAPIC.	**Enabled** Disabled
4GB PCI Hole Granularity	Sets the 4GB PCI Hole Granularity.	512 MB **1.0 GB** 2.0 GB
QPI Control Setting	Enables or Disables the QPI Control Setting.	**Enabled** Disabled

Parameter	Description	Option
QPI Link Fast Mode	Enables or Disables the QPI Link Fast Mode.	**Enabled** Disabled
QPI Frequency Selection	Sets the QPI Frequency Selection.	**Auto** 4.800GT 5.866GT
QPI Isoch-Support	Enables or Disables the QPI Isoch-Support.	Enabled **Disabled**
QPI DCA Support	Enables or Disables the QPI DCA Support.	**Enabled** Disabled
QPI Scramble Selection	Enables or Disables the QPI Scramble Selection.	Enabled **Disabled**
QPI Error Report	Enables or Disables the QPI Error Report.	Enabled **Disabled**
Memory ECC Error Log	Sets the Memory ECC Error Log.	Disable Correctable Error Uncorrectable Error **Both**
ECC Threshold	Sets the ECC Threshold.	[0]
UnCorrectable Pass to OS	Enables or Disables the UnCorrectable Pass to OS.	**Enabled** Disabled
Enable Multimedia Timer	Enables or Disables the Enable Multimedia Timer.	**Yes** No

Intel VT for Directed I/O (VT-d)

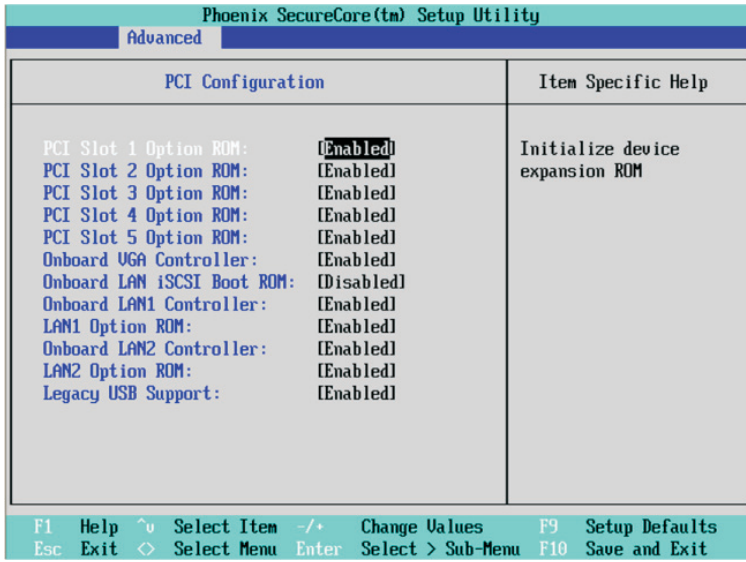

Phoenix SecureCore(tm) Setup Utility
Advanced
Intel VT for Directed I/O (VT-d)
Item Specific Help
Intel VT for Directed I/O (VT-d) [Enabled]
Interrupt Remapping [Enabled]
Coherency Support [Disabled]
ATS [Enabled]
PassThrough DMA [Enabled]
VT-d for Port 1 [Enabled]
VT-d for Port 2 [Enabled]
VT-d for Port 3 [Enabled]
VT-d for Port 4 [Enabled]
VT-d for Port 5 [Enabled]
VT-d for Port 6 [Enabled]
VT-d for Port 7 [Enabled]
VT-d for Port 8 [Enabled]
VT-d for Port 9 [Enabled]
Enable/Disable Intel Virtualization Technology for Directed I/O (VT-d) by reporting the I/O device assigment to VMM through DMAR ACPI Tables.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit


Phoenix SecureCore(tm) Setup Utility
Advanced
Intel VT for Directed I/O (VT-d)
Item Specific Help
Interrupt Remapping [Enabled]
Coherency Support [Disabled]
ATS [Enabled]
PassThrough DMA [Enabled]
VT-d for Port 1 [Enabled]
VT-d for Port 2 [Enabled]
VT-d for Port 3 [Enabled]
VT-d for Port 4 [Enabled]
VT-d for Port 5 [Enabled]
VT-d for Port 6 [Enabled]
VT-d for Port 7 [Enabled]
VT-d for Port 8 [Enabled]
VT-d for Port 9 [Enabled]
VT-d for Port 10 [Enabled]
Enable/Disable VT-d support for Port-10 Port through ATSR Structures in ACPI Tables
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Parameter	Description	Option
Intel VT for Directed I/O (VT-d)	Enables or Disables the Intel VT for Directed I/O (VT-d).	**Enabled** Disabled
Interrupt Remapping	Enables or Disables the Interrupt Remapping.	**Enabled** Disabled
Coherency Support	Enables or Disables the Coherency Support.	Enabled **Disabled**
ATS	Enables or Disables the ATS.	**Enabled** Disabled
PassThrough DMA	Enables or Disables the PassThrough DMA.	**Enabled** Disabled
VT-d for Port 1	Enables or Disables the VT-d for Port 1.	**Enabled** Disabled
VT-d for Port 2	Enables or Disables the VT-d for Port 2.	**Enabled** Disabled
VT-d for Port 3	Enables or Disables the VT-d for Port 3.	**Enabled** Disabled
VT-d for Port 4	Enables or Disables the VT-d for Port 4.	**Enabled** Disabled
VT-d for Port 5	Enables or Disables the VT-d for Port 5.	**Enabled** Disabled
VT-d for Port 6	Enables or Disables the VT-d for Port 6.	**Enabled** Disabled
VT-d for Port7	Enables or Disables the VT-d for Port 7.	**Enabled** Disabled
VT-d for Port 8	Enables or Disables the VT-d for Port 8.	**Enabled** Disabled
VT-d for Port 9	Enables or Disables the VT-d for Port 9.	**Enabled** Disabled

Parameter	Description	Option
VT-d for Port 10	Enables or Disables the VT-d for Port 10.	**Enabled** Disabled

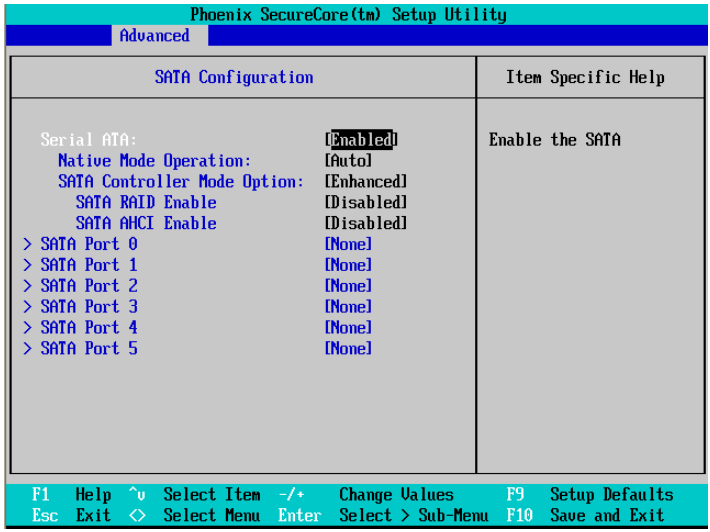
PCI Configuration


Phoenix SecureCore(tm) Setup Utility
Advanced
PCI Configuration
Item Specific Help
PCI Slot 1 Option ROM: [Enabled]
PCI Slot 2 Option ROM: [Enabled]
PCI Slot 3 Option ROM: [Enabled]
PCI Slot 4 Option ROM: [Enabled]
PCI Slot 5 Option ROM: [Enabled]
Onboard VGA Controller: [Enabled]
Onboard LAN iSCSI Boot ROM: [Disabled]
Onboard LAN1 Controller: [Enabled]
LAN1 Option ROM: [Enabled]
Onboard LAN2 Controller: [Enabled]
LAN2 Option ROM: [Enabled]
Legacy USB Support: [Enabled]
Initialize device expansion ROM
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Parameter	Description	Option
PCI Slot 1 - 5 Option ROM	When enabled, this setting will initialize the device expansion ROM for the related PCI slot.	**Enabled** Disabled
Onboard VGA Controller	Enables or Disables the Onboard VGA Controller.	**Enabled** Disabled
Onboard LAN iSCSI Boot ROM	Enables or Disables the Onboard LAN iSCSI Boot ROM.	Enabled **Disabled**
Onboard LAN1 Controller	Enables or Disables the Onboard LAN1 Controller.	**Enabled** Disabled

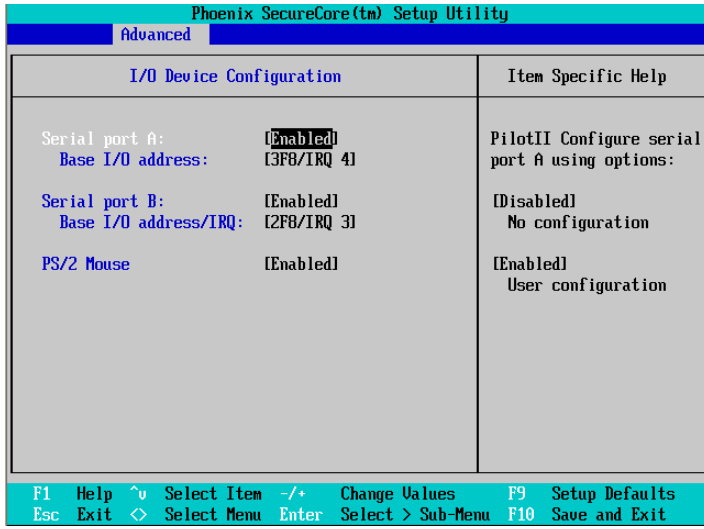
Parameter	Description	Option
LAN1 Option ROM	Enables or Disables the LAN1 Option ROM.	**Enabled** Disabled
Onboard LAN2 Controller	Enables or Disables the Onboard LAN2 Controller.	**Enabled** Disabled
LAN2 Option ROM	Enables or Disables the LAN2 Option ROM.	**Enabled** Disabled
Legacy USB Support	Enables or Disables the Legacy USB Support.	**Enabled** Disabled

SATA Configuration


Phoenix SecureCore(tm) Setup Utility
Advanced
SATA Configuration
Item Specific Help
Serial ATA: [Enabled]
Native Mode Operation: [Auto]
SATA Controller Mode Option: [Enhanced]
SATA RAID Enable [Disabled]
SATA AHCI Enable [Disabled]
> SATA Port 0 [None]
> SATA Port 1 [None]
> SATA Port 2 [None]
> SATA Port 3 [None]
> SATA Port 4 [None]
> SATA Port 5 [None]
Enable the SATA
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

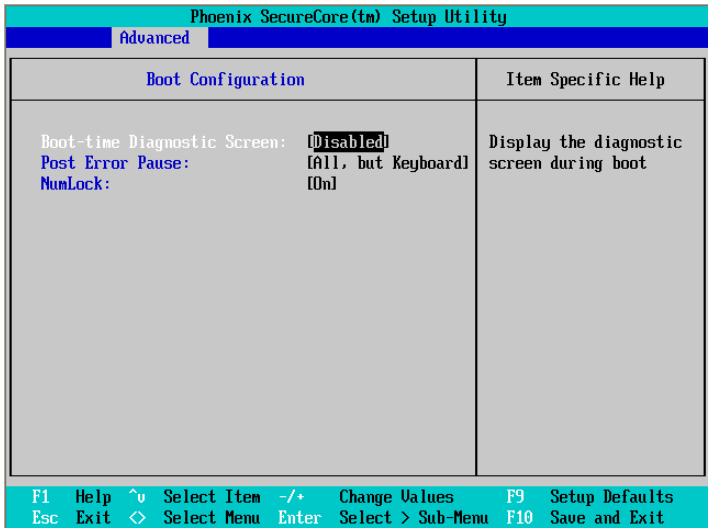
Parameter	Description	Option
Serial ATA	Enables or Disables the Serial ATA.	**Enabled** Disabled
Native Mode Operation	Sets the Native Mode Operation.	**Auto** Serial ATA
SATA Controller Mode Operation	Sets the SATA Controller Mode Operation.	Compatible **Enhanced**
SATA RAID Enable	Enables or Disables the SATA RAID Enable.	Enabled **Disabled**
SATA AHCI Enable	Enables or Disables the SATA AHCI Enable.	Enabled **Disabled**
SATA Port 0-5		None Drive Info

I/O Device Configuration


Phoenix SecureCore(tm) Setup Utility
Advanced
I/O Device Configuration
Item Specific Help
Serial port A: [Enabled]
Base I/O address: [3F8/IRQ 4]
Serial port B: [Enabled]
Base I/O address/IRQ: [2F8/IRQ 3]
PS/2 Mouse [Enabled]
PilotII Configure serial port A using options:
[Disabled] No configuration
[Enabled] User configuration
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

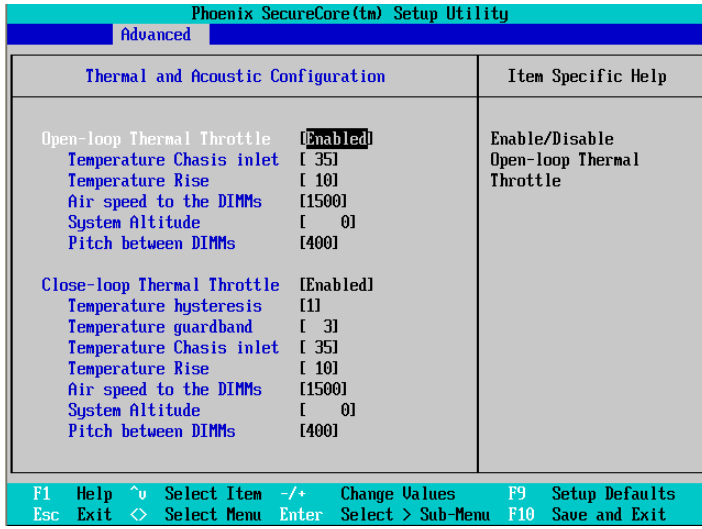
Parameter	Description	Option
Serial Port A	Enables or Disables the Serial Port A.	**Enabled** Disabled
Base I/O address	Base I/O address and IRQ setting for the selected serial port	**3F8/IRQ4** 2F8/IRQ3 3E8/IRQ4 2E8/IRQ3
Serial Port B	Enables or Disables the Serial Port B.	**Enabled** Disabled
Base I/O address	Base I/O address and IRQ setting for the selected serial port	3F8/IRQ4 **2F8/IRQ3** 3E8/IRQ4 2E8/IRQ3
PS/2 Mouse	Enable this parameter if you intend to use a mouse or trackball with a PS/2 interface.	**Enabled** Disabled

Boot Configuration


Phoenix SecureCore(tm) Setup Utility
Advanced
Boot Configuration
Item Specific Help
Boot-time Diagnostic Screen: [Disabled]
Post Error Pause: [All, but Keyboard]
NumLock: [On]
Display the diagnostic screen during boot
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Parameter	Description	Option
Boot-time Diagnostic Screen	Choose whether to display the boot-time diagnostic screen during POST.	Enabled **Disabled**
POST Error Pause	Select whether to pause POST when a boot-up error is detected.	All Errors No Errors **All, but Keyboard**
NumLock	Select the NumLock behavior during boot-up.	**On** Off

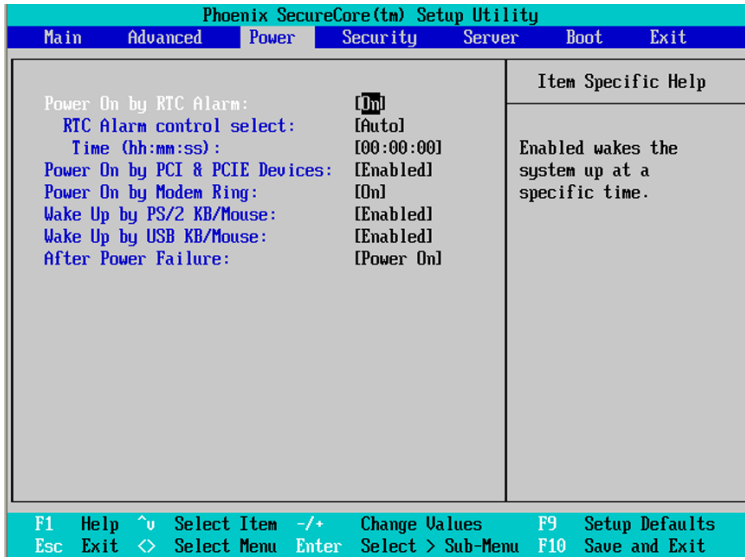
Thermal and Acoustic Configuration


Phoenix SecureCore(tm) Setup Utility
Advanced
Thermal and Acoustic Configuration
Item Specific Help
Open-loop Thermal Throttle [Enabled]
Temperature Chasis inlet [35]
Temperature Rise [10]
Air speed to the DIMMs [1500]
System Altitude [0]
Pitch between DIMMs [400]
Close-loop Thermal Throttle [Enabled]
Temperature hysteresis [1]
Temperature guardband [3]
Temperature Chasis inlet [35]
Temperature Rise [10]
Air speed to the DIMMs [1500]
System Altitude [0]
Pitch between DIMMs [400]
Enable/Disable Open-loop Thermal Throttle
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Parameter	Description	Option
Open-loop Thermal Throttle	Enables or Disables open-loop thermal throttle control function when the projected memory temperature exceeds a predefined limit.	**Enabled** Disabled
Temperature Chassis inlet	Temperature detected at the chassis inlet.	35
Temperature Rise	Sets the temperature rise parameter of a memory module to improve memory power management.	10
Air Speed to the DIMMs	Sets the speed of air flow to the memory modules.	1500
System Altitude	Sets the altitude of the location where the system is used.	0
Pitch between DIMMs	Sets the distance of physical space between each memory module.	400

Parameter	Description	Option
Close-loop Thermal Throttle	Enables or disables close-loop thermal throttle control function when the projected memory temperature exceeds a predefined limit.	**Enabled** Disabled
Temperature Hysteresis	Sets the temperature hysteresis.	1
Temperature Guardband	Sets the temperature guardband.	3
Temperature Chassis inlet	Temperature detected at the chassis inlet.	35
Temperature Rise	Sets the temperature rise parameter of a memory module to improve memory power management.	10
Air Speed to the DIMMs	Sets the speed of air flow to the memory modules.	1500
System Altitude	Sets the altitude of the location where the system is used.	0
Pitch between DIMMs	Sets the distance of physical space between each memory module.	400

Power

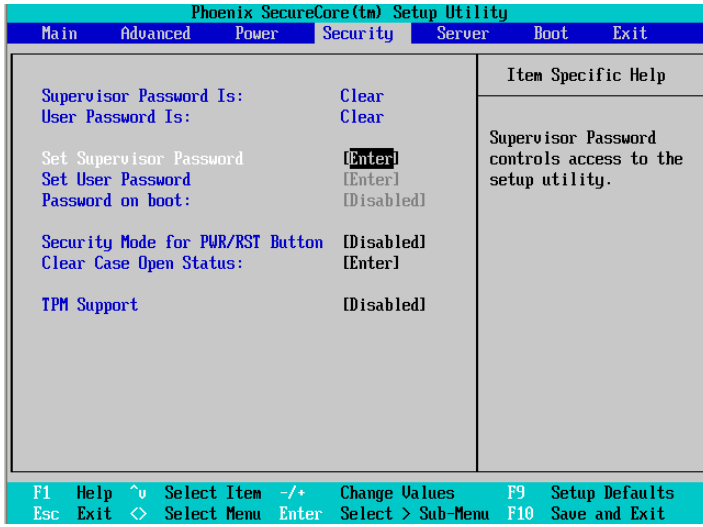

Phoenix SecureCore(tm) Setup Utility
Main
Advanced
Power
Security
Server
Boot
Exit
Power On by RTC Alarm: [On]
RTC Alarm control select: [Auto]
Time (hh:mm:ss): [00:00:00]
Power On by PCI & PCIE Devices: [Enabled]
Power On by Modem Ring: [On]
Wake Up by PS/2 KB/Mouse: [Enabled]
Wake Up by USB KB/Mouse: [Enabled]
After Power Failure: [Power On]
Item Specific Help
Enabled wakes the system up at a specific time.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Parameter	Description	Option
Power On by RTC Alarm	Enables or disables real time clock (RTC) to generate a wake event.	**Off** On
RTC Alarm control select	Sets the RTC alarm control.	**Auto** Manual
Time (hh:mm:ss)	Sets the time of the day.	0-23:0-59:0-59
Power On by PCI & PCIE Devices	Enables or disables a PCI or PCIE devices to generate a wake event.	**Enabled** Disabled
Power On by Modem Ring	Enables or disables the modem ring to wake the system from a power saving mode.	**Enabled** Disabled
Wake Up by PS/2 KB/Mouse	Enables or disables BIOS to wake up the system using a PS/2 keyboard or mouse.	**Enabled** Disabled

Parameter	Description	Option
Wake Up by USB KB/Mouse	Enables or disables BIOS to wake up the system using a USB keyboard or mouse.	**Enabled** Disabled
After Power Failure	Defines the power state to resume to after a system shutdown that is due to an interruption in AC power. When set to Last State, the system will return to the active power state prior to shutdown. When set to Stay Off, the system remains off after power shutdown. When set to Power On, the system will be turned on from a power failure.	Stay Off Last State **Power On**

Security menu

The Security menu allows you to safeguard and protect the system from unauthorized use by setting up access passwords.


Phoenix SecureCore(tm) Setup Utility
Main Advanced Power Security Server Boot Exit
Item Specific Help
Supervisor Password Is: Clear
User Password Is: Clear
Set Supervisor Password [Enter]
Set User Password [Enter]
Password on boot: [Disabled]
Supervisor Password controls access to the setup utility.
Security Mode for PWR/RST Button [Disabled]
Clear Case Open Status: [Enter]
TPM Support [Disabled]
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

There are three types of passwords that you can set:

- Supervisor password

  Entering this password will allow the user to access and change all settings in the Setup Utility.

- User password

  Entering this password will restrict a user's access to the Setup menus. To enable or disable this field, a supervisor password must first be set. A user can only access and modify the System Time, System Date, and Set User Password fields.

- Power-on password

  When the Password on Boot field is enabled, a password will be required to boot up the server. To enable or disable this field, a supervisor password must first be set.

Parameter	Description	Option
Supervisor Password Is	This parameter indicates whether a supervisor password has been assigned.	Clear Enabled
User Password Is	This parameter indicates whether a user password has been assigned.	Clear Enabled
Set Supervisor Password	Press **Enter** to configure the supervisor password.	
Set User Password	Press **Enter** to configure the user password.	
Password On Boot	Select **Enabled** to activate security check during POST.	**Disabled** Enabled
Security Mode for PWR/RST Button	Enables or Disables the Security Mode for PWR/RST Button.	**Disabled** Enabled
Clear Case Open Status	Press **Enter** then select whether to enable or disable the clear case open status at next boot function.	

Setting a system password

1 Use the up/down keys to select a password parameter (Set Supervisor Password or Set User Password), then press **Enter**.

A password box will appear.

2 Type a password then press **Enter**.

The password may consist of up to six alphanumeric characters (A-Z, a-z, 0-9).

3 Retype the password to verify the first entry then press **Enter** again.

4 Press **F10**.

5 Select **Yes** to save the new password and close the Setup Utility.

Changing a system password

1 Use the up/down keys to select a password parameter (Set Supervisor Password or Set User Password), then press **Enter**.

2 Type the original password then press **Enter**.

3 Type a new password then press **Enter**.

4 Retype the password to verify the first entry then press **Enter** again.

5 Press **F10**.

6 Select **Yes** to save the modified password and close the Setup Utility.

Removing a system password

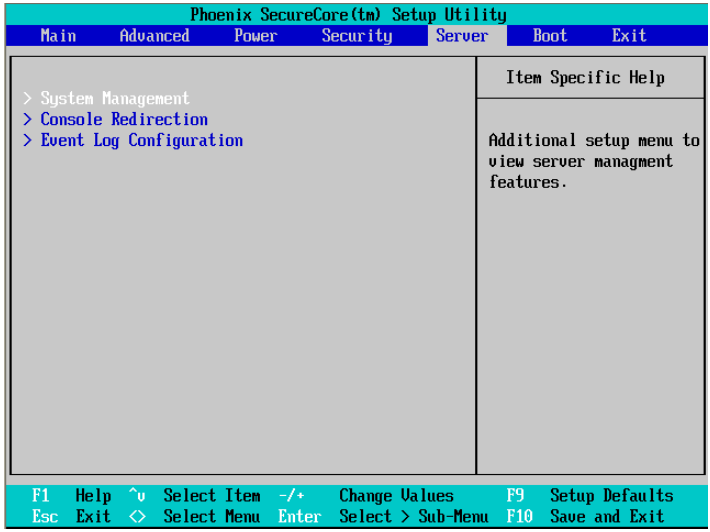
1 Use the up/down keys to select a password parameter (Set Supervisor Password or Set User Password), then press **Enter**.

2 Enter the current password then press **Enter**.

3 Press **Enter** twice without entering anything in the new and confirm password fields.

After doing this, the system automatically sets the related password parameter to **Clear**.

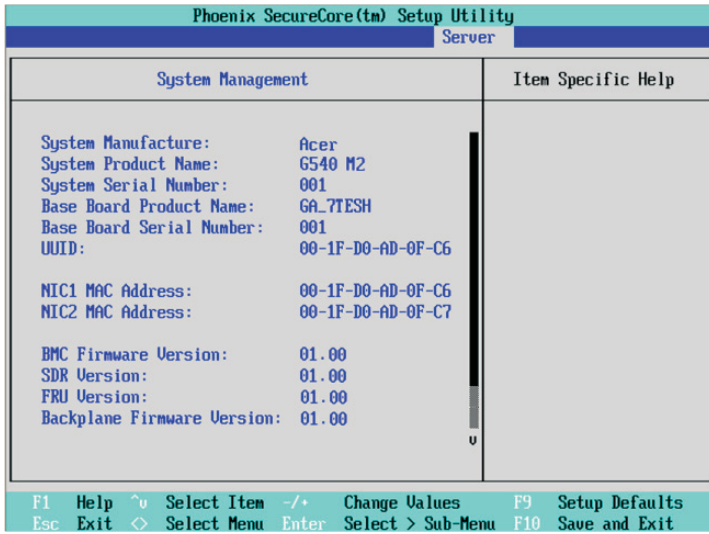
Server menu

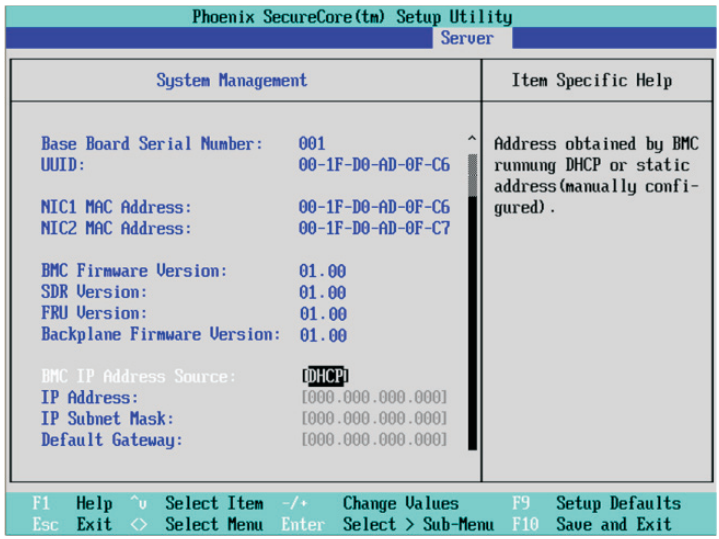

Phoenix SecureCore(tm) Setup Utility
Main Advanced Power Security Server Boot Exit
> System Management
> Console Redirection
> Event Log Configuration
Item Specific Help
Additional setup menu to view server managment features.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Parameter	Description
System Management	Displays basic system ID information, as well as BIOS and BMC firmware versions. Press **Enter** to access the related submenu.
Console Redirection	Displays console redirection-related settings. Press **Enter** to access the related submenu.
Event Log Configuration	Displays DMI event log-related settings. Press **Enter** to access the related submenu.

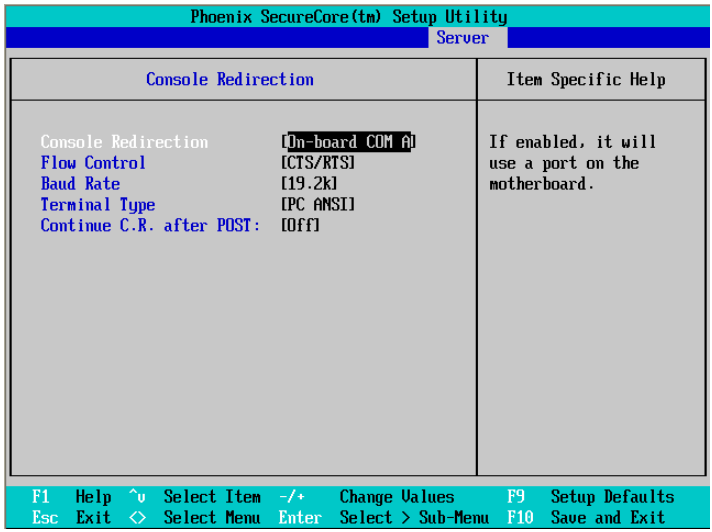
System Management

The System Management submenu is a simple display page for basic system ID information, as well as BIOS and BMC firmware versions. Items on this window are non-configurable.


Phoenix SecureCore(tm) Setup Utility
Server
System Management
Item Specific Help
System Manufacture: Acer
System Product Name: G540 M2
System Serial Number: 001
Base Board Product Name: GA_7TESH
Base Board Serial Number: 001
UUID: 00-1F-D0-AD-0F-C6
NIC1 MAC Address: 00-1F-D0-AD-0F-C6
NIC2 MAC Address: 00-1F-D0-AD-0F-C7
BMC Firmware Version: 01.00
SDR Version: 01.00
FRU Version: 01.00
Backplane Firmware Version: 01.00
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit


Phoenix SecureCore(tm) Setup Utility
Server
System Management
Item Specific Help
Base Board Serial Number: 001
UUID: 00-1F-D0-AD-0F-C6
NIC1 MAC Address: 00-1F-D0-AD-0F-C6
NIC2 MAC Address: 00-1F-D0-AD-0F-C7
BMC Firmware Version: 01.00
SDR Version: 01.00
FRU Version: 01.00
Backplane Firmware Version: 01.00
BMC IP Address Source: [DHCP]
IP Address: [000.000.000.000]
IP Subnet Mask: [000.000.000.000]
Default Gateway: [000.000.000.000]
Address obtained by BMC runnung DHCP or static address(manually configured).
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

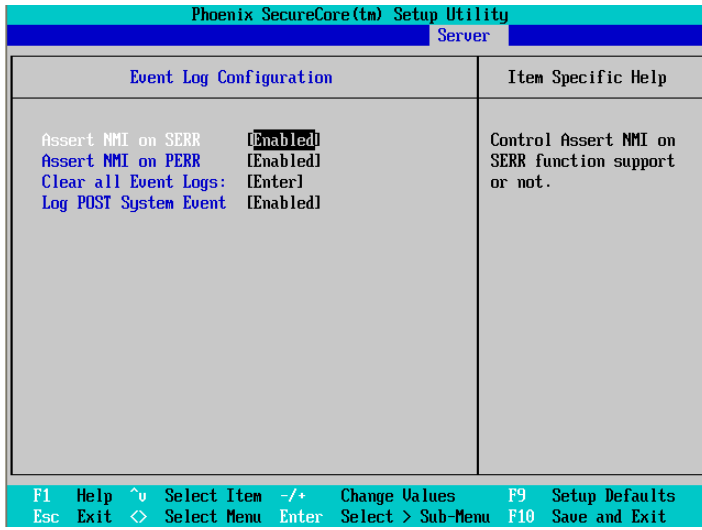
Console Redirection


Phoenix SecureCore(tm) Setup Utility
Server
Console Redirection
Item Specific Help
Console Redirection [On-board COM A]
Flow Control [CTS/RTS]
Baud Rate [19.2k]
Terminal Type [PC ANSI]
Continue C.R. after POST: [Off]
If enabled, it will use a port on the motherboard.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Parameter	Description	Option
Console Redirection	Select whether to enable console redirection. Console redirection enables users to manage the system from a remote location.	Onboard COM A Onboard COM B **Disabled**
Flow Control	Assign control for the console redirection flow.	None XON/OFF **CTS/RTS**
Baud Rate	Select the baud rate for console redirection.	300 1200 2400 9600 **19.2K** 38.4K 57.6K 115.2K

Parameter	Description	Option
Terminal Type	Select a terminal type to be used for console redirection.	VT100, VT100 8bit **PC-ANSI 7bit** VT100+ VT-UTF8
Continue CR After POST	Select whether to enable console redirection after POST.	On **Off**

Event Log Configuration

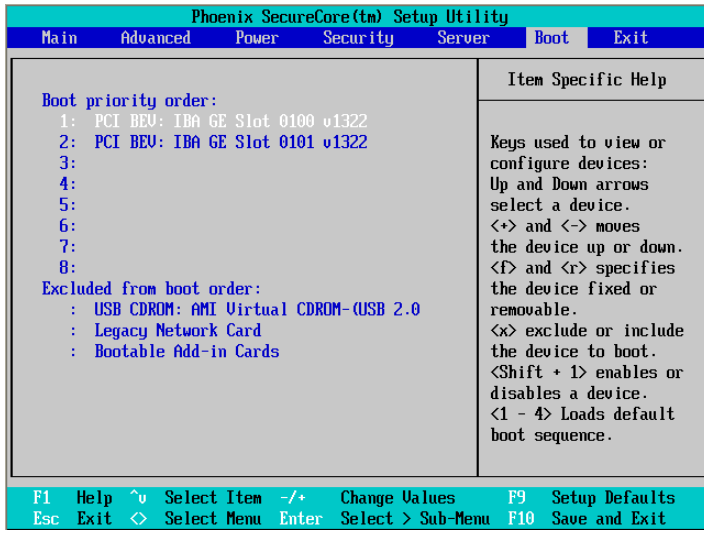

Phoenix SecureCore(tm) Setup Utility
Server
Event Log Configuration
Item Specific Help
Assert NMI on SERR [Enabled]
Assert NMI on PERR [Enabled]
Clear all Event Logs: [Enter]
Log POST System Event [Enabled]
Control Assert NMI on SERR function support or not.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

Parameter	Description	Option
Assert NMI on SERR	Enables or disables the PCI bus system error (SERR) support.	**Enabled** Disabled

Parameter	Description	Option
Assert NMI on PERR	Enables or disables the PCI bus PERR (parity error) support. **Note:** This parameter is disabled when assert non-maskable interrupt (NMI) on SERR is set to disabled.	**Enabled** Disabled
Clear All Event Logs	Press **Enter** then select whether to clear all entries in the system event log.	
Log POST System Event	Select whether to enable the BIOS event log to be integrated in the system event log.	**Enabled** Disabled

Boot menu

The Boot menu allows you to set the drive priority during system boot-up. BIOS setup will display an error message if the drive(s) specified is not bootable.


Phoenix SecureCore(tm) Setup Utility
Main
Advanced
Power
Security
Server
Boot
Exit
Item Specific Help
Boot priority order:
1: PCI BEV: IBA GE Slot 0100 v1322
2: PCI BEV: IBA GE Slot 0101 v1322
3:
4:
5:
6:
7:
8:
Excluded from boot order:
: USB CDROM: AMI Virtual CDROM-(USB 2.0
: Legacy Network Card
: Bootable Add-in Cards
Keys used to view or configure devices:
Up and Down arrows select a device.
<+> and <-> moves the device up or down.
<f> and <r> specifies the device fixed or removable.
<x> exclude or include the device to boot.
<Shift + 1> enables or disables a device.
<1 - 4> Loads default boot sequence.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Select > Sub-Menu F10 Save and Exit

By default, the server searches for boot devices in the following order:

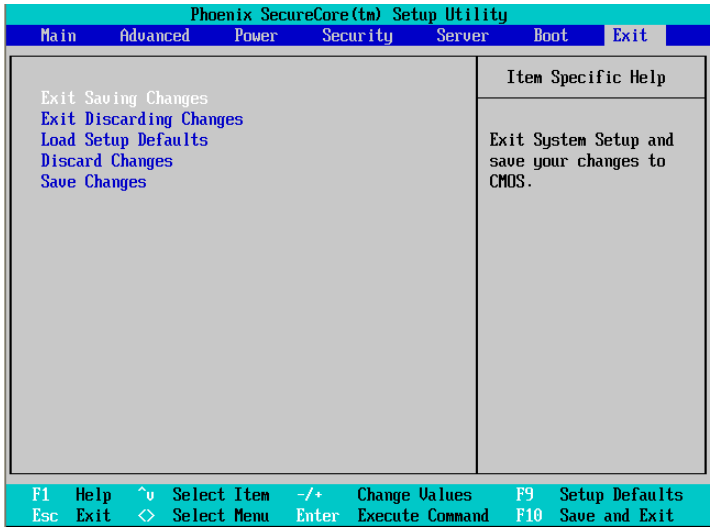
1 Optical disc drive

2 Hard drive

3 LAN device with Boot ROM

Exit menu

The Exit menu displays the various options to quit from the BIOS setup. Highlight any of the exit options then press **Enter**.


Phoenix SecureCore(tm) Setup Utility
Main Advanced Power Security Server Boot Exit
Exit Saving Changes
Exit Discarding Changes
Load Setup Defaults
Discard Changes
Save Changes
Item Specific Help
Exit System Setup and save your changes to CMOS.
F1 Help ^v Select Item -/+ Change Values F9 Setup Defaults
Esc Exit <> Select Menu Enter Execute Command F10 Save and Exit

Parameter	Description
Exit Saving Changes	Saves changes made and close the BIOS setup.
Exit Discarding Changes	Discards changes made and close the BIOS setup.
Load Setup Defaults	Loads the default settings for all BIOS setup parameters. Setup Defaults are quite demanding in terms of resources consumption. If you are using low-speed memory chips or other kinds of low-performance components and you choose to load these settings, the system might not function properly.
Discard Changes	Discards all changes made in the BIOS setup.
Save Changes	Saves changes made in the BIOS setup.

5 System troubleshooting

This chapter provides possible solutions for specific problems. If you cannot correct the problem, contact your local Acer representative or authorized dealer for assistance.

Resetting the system

Before going through in-depth troubleshooting, attempt first to reset the system using one of the methods below.

Perform	Purpose	To do this
Soft boot reset	To clear the system memory and reload the operating system.	Press Ctrl+Alt+Del
Cold boot reset	To clear the system memory, restart POST, and reload the operating system. This will halt power to all peripherals.	Press the system power button off and then on.

Initial system startup problems

Problems that occur at initial system startup are usually caused by an incorrect installation or configuration. Hardware failure is a less possible cause. If the problem you are experiencing is with a specific application, see the "There is problem with the software program" section on page 144.

Initial troubleshooting checklist

Use the checklist below to eliminate the possible cause for the problem you're encountering.

- AC power is available at the wall outlet?
- Is the power supply module properly installed?
- Is the system power cord properly plugged into the power supply module socket? and connected to a NEMA 5-15R outlet for 100-120 V or a NEMA 6-15R outlet for 200-240 V?
- Are all peripheral cables correctly connected and secured?
- Did you press the system power button to turn the server on (power on indicator should be lit green)?
- Are all device drivers properly installed?
- Is hard disk drive(s) properly formatted and configured?
- Are the BIOS configuration settings in the BIOS setup utility correct?
- Is the operating system properly loaded?

  Refer to the operating system documentation.
- Are all hardware components compliant with the tested components lists?
- Are all internal cables correctly connected and secured?
- Are the processors fully seated in their mainboard sockets?
- Are all standoffs in the proper location and not touching any components, causing a potential short?
- Are all add-in expansion cards fully seated in their mainboard slots?
- Are all system jumpers correctly set?
- Are all switch settings on add-in boards and peripheral devices correct?

  To check these settings, refer to the manufacturer's documentation that comes with them. If applicable, ensure that there are no conflicts (e.g., two add-in boards sharing the same interrupt.

Hardware diagnostic testing

This section provides a detailed approach to identifying a hardware problem and its cause.

Checking the boot-up status

Caution: Before disconnecting any peripheral cables from the server, turn off the system and any peripheral devices. Failure to do so can cause permanent damage to the system and/or the peripheral device.

1 Turn off the system and all external peripheral devices.

2 Disconnect all peripheral devices from the system, except for the keyboard and the display monitor.

3 Make sure the system power cord is plugged into a properly grounded AC outlet and in the power supply module cord socket.

4 Make sure the display monitor and keyboard are correctly connected to the system.

5 Turn on the display monitor.

6 Set the display brightness and contrast controls to at least two thirds of their maximum range.

Refer the documentation that came with your display monitor.

7 If the operating system normally loads from the hard drive, make sure there is no diskette in floppy drive and no disc in the DVD-ROM drive.

8 If the power indicator is lit, attempt to boot from a floppy diskette or from a disc.

9 Turn on the system.

If the power indicator did not light up, see “Power indicator does not light” on page 142.

Verifying the condition of the storage devices

As POST determines the system configuration, it tests for the presence of each mass storage device installed in the system. As each device is checked, its activity indicator should turn on green briefly. Check the activity indicators for the hard drive(s), DVD-ROM drive, floppy drive, and any other 5.25-inch device you may have installed.

If any of these indicators fail to light up, refer to related problems listed in the "Specific problems and corrective actions" section.

Confirming loading of the operating system

Once the system boots up, the operating system prompt appears on the screen. The prompt varies according to the operating system. If the operating system prompt does not appear, see "No characters appear the display monitor" on page 145.

Specific problems and corrective actions

Listed below are specific problems that may arise during the use of your server and their possible solutions.

Power indicator does not light.

Do the following:

- Make sure the power supply module is properly installed.
- Make sure the power cord is connected correctly.
- Make sure that the wall outlet has power. Test it by plugging another device.
- Make sure the power indicator on the front panel is lit up green.
- Remove all add-in cares and see if the system boots.

  If reboot is successful, install the cards back in one at a time with a reboot between each addition to determine if one of them is causing the problem.
- Make sure that you have properly installed system compliant memory modules, and that there populated according to the system guidelines.
- Make sure that you have installed system compliant processors, and that there populated according to the system guidelines.

HDD activity indicator does not light.

Do the following:

- Make sure the data and power cables are connected correctly.
- Check that relevant switches and jumpers on the hard drive and on the backplane board (for hot-plugs HDD) are set correctly.

DVD drive activity indicator does not light.

Do the following:

- Make sure the IDE and power cables are properly connected.
- Check that relevant switches and jumpers on the drive are set correctly.
- Check that the drive is properly configured.

DVD tray cannot be ejected.

Insert the tip of a paperclip into the small hole on the DVD drive. Slowly pull the tray out from the drive until the tray is fully extended.

DVD drive cannot read a disc.

Do the following:

- Make sure you are using the correct type of disc.
- Make sure the disc is properly seated in the drive.
- Make sure the disc is unscratch and free of any contaminant.
- Make sure the drive's IDE and power cables are properly connected.

Newly installed memory modules are not detected.

Do the following:

- Make sure the memory modules specifications comply with the system requirements.
- Make sure the memory modules have been populated according to the system guidelines.
- Make sure the memory modules are properly installed on their mainboard slots.

Network connection indicators do not light.

Do the following:

- Check the cabling and network equipment to make sure that there are in proper condition.
- Reinstall the network drivers.
- Try another port or hub on the switch.

Network activity indicators do not light.

Do the following:

- Make sure the correct network drivers are loaded on the system.
- Network might be idle.

Peripheral device connected to a USB port does not work.

Do the following:

- Reduce the number of external devices connected to a USB hub.
- Refer to the documentation that came with the device.

There is problem with the software program.

Do the following:

- Verify that the software is properly configured for the system.

  Refer to the software installation and operation documentation for instructions on setting up and using the software.
- Try a different version of the software to see if the problem is with the copy you are using. If the other version runs correctly on the system, contact your vendor about the defective software.

No characters appear on the display monitor.

Check the following:

- Is the keyboard functioning? Test it by turning the Num Lock function on and off to check if the Num Lock indicator lights up.
- Is the display monitor plugged in and turned on? If you are using a switch box, is it switched to the correct system?
- Are the brightness and contrast controls on the video monitor properly adjusted?
- Is the display monitor signal cable properly connected?
- Does this display monitor work correctly if plugged into a different system?
- Remove all add-in cares and see if the system boots.

  If reboot is successful, install the cards back in one at a time with a reboot between each addition to determine if one of them is causing the problem.
- Make sure that you have properly installed system compliant memory modules, and that there populated according to the system guidelines.
- Make sure that you have installed system compliant processors, and that there populated according to the system guidelines.

If you are using an add-in video controller card, do the following:

1 Verify that the display monitor works using the onboard video controller.

2 Verify that the add-in video controller card is fully seated in its slot.

3 Reboot the system for the changes to take effect.

4 If there are still no characters on the screen after you reboot the system, reboot it again.

  Take note of the beep codes emitted during POST. This information may be required if you seek technical assistance.

  If POST does not emit any beep code and characters still does not appear, the display monitor or the video controller may be defective. Contact your local Acer representative or authorized dealer for technical assistance.

Appendix A: Server management tools

This appendix gives an overview of the different server management tools supported by your server.

Server management overview

The server management tools supported by the Altos G540 M2 system is listed in the table below.

Tool	Function
*Phoenix*BIOS Setup Utility	Use this tool to configure the different hardware components and system functions (memory, processor, and security settings). Go to the BIOS setup chapter on page 97 for details.
ASM (Acer Server Management)	This utility allows a system administrator to remotely manage the server in a network environment through a single management station. For detailed instructions on how to install and use this utility, refer to the user documentation accompanying it.
Onboard SATA RAID Configuration Utility	Use any of these utilities to configure RAID for the system hard drives. The two LSI utilities are only available when their corresponding SAS controller board option is installed in the server. Proceed to the next section for instructions on how to use these utilities.
LSI MegaRAID SAS RAID Configuration Utility	

RAID configuration utilities

RAID option for the Altos G540 M2 system is provided through either the onboard SATA controller or through a controller board option (LSI MegaRAID SAS RAID controller).

Caution: Creating a RAID volume erases all data previously saved in the hard drives. Make sure that you back up important files before starting a RAID configuration process.

Onboard SATA RAID Configuration Utility

This section explains how to create a RAID 1 volume using the onboard SATA controller.

To enable the onboard SATA RAID controller:

1 Turn on the server and the monitor.

If the server is already turned on, close all open applications, then restart the server.

2 During POST, press **F2** to access the BIOS Setup Utility.

3 Select the **Advanced** | **SATA Configuration** submenu.

4 Change the setting of the SATA RAID Enable field from Disabled to **Enabled**.

5 Press **F10**.

6 Select **Yes** to save the new SATA RAID settings and close the Setup Utility.

Entering the onboard SATA RAID Configuration Utility

During POST, press **Ctrl**-**M** in the LSI MegaRAID Software RAID information screen.

Loading the onboard LSI SATA RAID default setting

1 In the onboard LSI RAID Configuration Utility, select **Objects** from the Management menu.

2 Select **Adapter** from the Objects list.

The available adapter options will be displayed.

3 Press **Enter** in the adapter list.

The adapter settings will be displayed.

4 Select **Factory Default**, then **YES** to load the default settings.

5 Close the configuration utility.

6 Press **Ctrl**+**Alt**+**Del** to reboot the system.

Creating the RAID 1 volume

1 In the onboard LSI RAID Configuration Utility, select **Configuration** from the Management menu.

2 Select **New Configuration** from the Configuration menu, then select **YES** to continue.

An array selection window displays the devices connected to the current controller.

3 Press the arrow keys to choose the specific physical drives, then press the space bar to associate the selected drive with the current array.

The indicator for the selected drive change from READY to ONLINE.

4 Add two more drives to the current array, then press **Enter**.

5 Press **Enter** again to select another array to configure.

6 Press the space bar to select the array, then press **F10** to configure the logical drive.

7 Accept the default RAID level (RAID1), then press **Enter** to return to the array selection window.

8 Press **Enter** to end the array configuration.

9 Select **YES** to save the configuration, then press any key to return to the Configuration menu.

Initializing the RAID volume

1 Press **Esc** to return to the Management menu.

2 Select **Initialize** from the Management menu.

All logical drives should be listed under Logical Drives.

3 Press the space bar to select the drives for initialization.

The selected drive will be shown in yellow.

4 Press **F10**, then select **YES** to start the initialization process.

5 Once initialization is complete, press any key to continue.

6 Press **Esc** to return to the Management menu.

7 Press **Esc**, then select **YES** to close the configuration utility.

Press **Ctrl+Alt+Del** to reboot the system, then proceed to the OS installation.

Assigning a Hot Spare Disk

1 Select Objects from Management menu.

2 Select **Physical Drive** from **Objects**. All of the HDDs will be listed.

3 Select a drive marked as **READY** and press **Enter**.

4 Select **Make Hot Spare** and press **Enter**.

5 Select Yes then you will see the HDD is changed from **READY** to **HOTSP**.

6 Press **ESC** to return to the **Management Menu**.

Save and Exit LSI RAID Configuration Utility

1 When RAID configuration, initialization and assigning hot spare is completed, press **ESC** in the Management Menu and select YES to exit the RAID Configuration Utility.

2 Press **Ctrl + Alt + Del** to reboot the server.

3 Now you can start to install OS.

LSI MegaRAID SAS 8708EM2 RAID Configuration Utility

This section briefly shows how to create RAID with LSI MegaRAID SAS 8708EM2.

To initialize the LSI MegaRAID SAS RAID Configuration Utility:

1 Turn on the server and the monitor.

If the server is already turned on, close all open applications, then restart the server.

2 During **POST**, press **Ctrl-H** on the RAID BIOS prompt.

After POST completion, the Adapter Selection window will appear.

3 Click **Start** to launch the Configuration menu.

To load the factory default RAID setting:

1 On the Configuration menu, select **Adapter Properties** to display the current adapter settings.

2 Click **Next** to change the adapter setting.

3 Change the setting of Set Factory Defaults from No to **Yes**, then click **Submit**.

4 Press **Ctrl+Alt+Del** to reboot the server.

To create and initialize a RAID volume:

1 Access the Configuration menu.

2 Click **Configuration Wizard**.

3 Click **Add Configuration**, then click **Next**.

4 Click **Custom Configuration**, then click **Next**.

5 Use the **Ctrl** key to select the drives that you want to add into the array.

6 After selecting the drives, click **Accept DG**, then **Next**.

7 Select the RAID Level you want to use.

8 Create the logical volume and specify its size on the Select Size field, then click **Accept**.

9 After creating a logical volume on all of the RAID volume, click

Accept, then **Yes** to save the configuration.

10 Click **Yes** to initialize the new logical drives.

All the created logical drives will be listed.

11 Click on **Home** to revert to the Configuration menu.

12 Select **Exit**, then **Yes**.

13 Press **Ctrl+Alt+Del** to reboot the system.

Proceed to the installation of the operating system. Refer to the user documentation that came with your OS for related instructions.

To assign a hot spare disk:

1 Access the Configuration menu.

2 Under Physical Drives, select a free disk marked as **UNCONF GOOD**.

3 Select **Make Global Dedicated HSP** or **Make Dedicated HSP**, then click **Go**.

4 Click on **Home** to revert to the Configuration menu.

Under Physical Drives, the assigned hot spare disk is marked as **Hotsapare** and highlighted in pink.

LSI MegaRAID SAS 8204ELP RAID Configuration Utility

This section briefly shows how to create RAID with LSI MegaRAID SAS 8204ELP.

Starting LSI MegaRAID SAS RAID Configuration Utility

During POST, press **CTRL-M** in the LSI MegaRAID information screen.

Loading Factory default setting

1 Select **Objects** from **Management** menu.

2 Select **Adapter** from **Objects**. The selectable adapter will be listed.

3 Press **Enter** on the adapter and the adapter setting will be shown on the screen. You can change the setting from this menu.

4 Select **Factory Default** and **Yes** to load the default settings.

5 Exit the configuration utility and press **<Ctrl> + <Alt> + <Del>** to reboot the server.

Creating a RAID volume

1 Select **Configuration** from **Management Menu**.

2 Select **New Configuration** from the **Configuration Menu**. An array selection window displays the devices connected to the current controller.

3 Press the arrow keys to choose specific physical drives and press spacebar to associate the selected drive with the current array. The indicator for selected drive change from **READY** to **ONLINE**.

4 After you adding the drives to current array, press **Enter** to finish creating current array.

5 Press **Enter** again to select array to configure.

6 Press spacebar to select the array and press **F10** to configure the logical drive

7 Select **Accept** and press **Enter** to use the default setting for the RAID volume.

8 Press **Enter** to end the array configuration.

9 Select **YES** to Save Configuration and press any key to return to the **Configuration Menu**.

10 Press **ESC** to return to the **Management Menu**.

Initial RAID Volume

1 Select **Initialize** from **Management Menu**. All logical drives should be listed under Logical Drives.

2 Press Spacebar to select drives for initialization. The selected drive will be shown in yellow.

3 After selecting the drives, press **F10** and select **YES** to start the initialization process.

4 When initialization is complete, press **ESC** to continue.

5 Press **ESC** to return to the **Management Menu**.

Assigning a Hot Spare Disk

1 Select Objects from Management Menu.

2 Select Physical Drive from Objects. All of the HDDs will be listed.

3 Select a drive marked as **READY** and press **Enter**.

4 Select **Make Hot Spare** and press **Enter**.

5 Select **Yes** then you will see the HDD is changed from **READY** to **HOTSP**.

6 Press **ESC** to return to the **Management Menu**.

Save and Exit LSI RAID Configuration Utility

1 When RAID configuration, initialization and assigning hot spare is completed, press **ESC** in the **Management Menu** and select **YES** to exit the RAID Configuration Utility.

2 Press **Ctrl + Alt + Del** to reboot the server.

3 Now you can start to install OS.

Appendix B: Rack mount configuration

This appendix shows you how to set up the Altos G540 M2 server in a rack mount configuration.

Rack installation information

Important! Observe the electrostatic discharge (ESD) precautions indicated on page 41 when performing the following procedures. Do not attempt the procedures described in the following sections unless you are a qualified technician.

The Altos G540 M2 server system can also be mounted in a rack-model position. A rack mount kit is available for customers who want to convert a tower-mounted system to rack-model design. To purchase a rack mount kit, contact your local Acer representative or order directly from http://www.acer.com/.

Rack installation precautions

Follow the rack manufacturer's safety and installation instructions for proper rack installation.

The following additional rack safety installation measures should be considered:

- Anchor the equipment rack

  The equipment rack must be anchored to an unmovable suitable support to prevent the rack from falling over when one or more systems are fully extended out of the rack assembly. You must also consider the weight of any other devices installed in the rack assembly. The equipment rack must be installed according to the manufacturer's instructions.

- Main AC power disconnect

  You are responsible for installing an AC power disconnect for the entire rack unit. This main disconnect must be readily accessible, and it must be labeled as controlling power to the entire unit, not just to the system(s).

- Earth ground the rack installation

  To avoid the potential for an electrical shock hazard, the rack assembly itself must be suitably earth grounded, according to your local regional electrical codes. This typically will require the rack to

have its own separate earth ground. We recommend you consult your local approved electrician.

- Elevated operating ambient temperature

  The maximum operating temperature of the system is 35°C (95°F). Careful consideration should be given to installing the system in an environment compatible with the 35°C (95°F) maximum ambient temperature.

- Reduced airflow

  The amount of airflow required for the safe operation of the equipment should not be compromised when installing the system in a rack.

- Mechanical loading

  Exercise care when mounting the system in a rack to avoid any accidents.

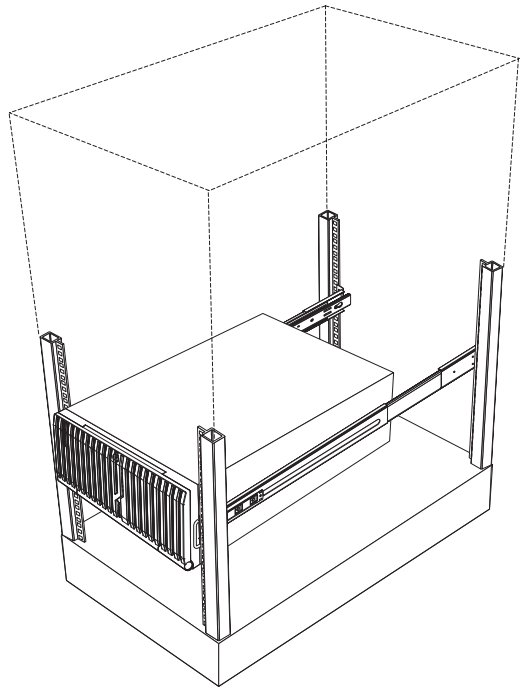
- Circuit overloading

  Appropriate consideration should be given when connecting the supply circuit to the system to avoid any circuit overload. The system name plate rating should be used when addressing concerns about circuit overload.

System rack installation

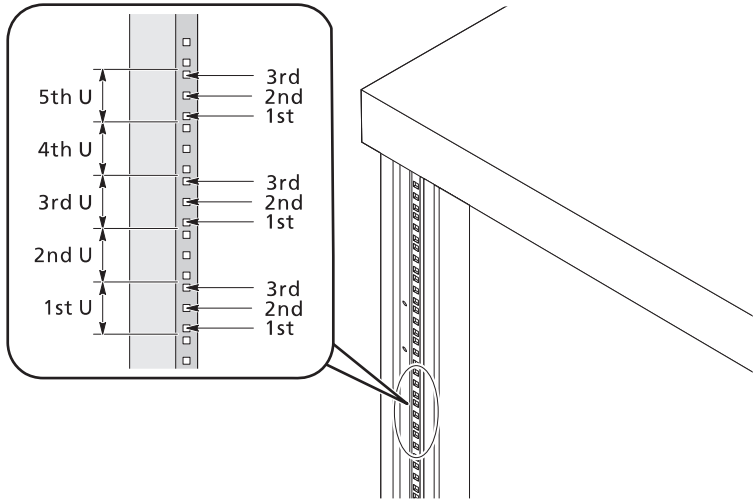
The Altos G540 M2 server system should be mounted into a rack cabinet. A rack rail and CMA (cable management arm) kit is available for installing system to a rack cabinet.

The figure below shows the server in a rack-mount position.



Vertical mounting hole pattern

The four vertical rails of the system rack contain mounting holes arranged in a manner shown in the figure below.



The system occupies 5U in the rack. Count the U positions and hole numbers from the bottom up.

The distance from the center of two holes with closer spacing to the center of the next pair is equivalent to 1U.

Note: The unit of measurement used in this guide is "U" (1U = 1.75 inches or 44.45 mm). The total sum of the heights of all components in the rack measured in "U" cannot exceed the height of the rack. For more information, refer to the documentation that came with the system rack.

When installing components, you must start your measurement from the center of the two holes with closer spacing. Otherwise, the screw holes on the component may not match those on the rack.

Installing the system into the rack

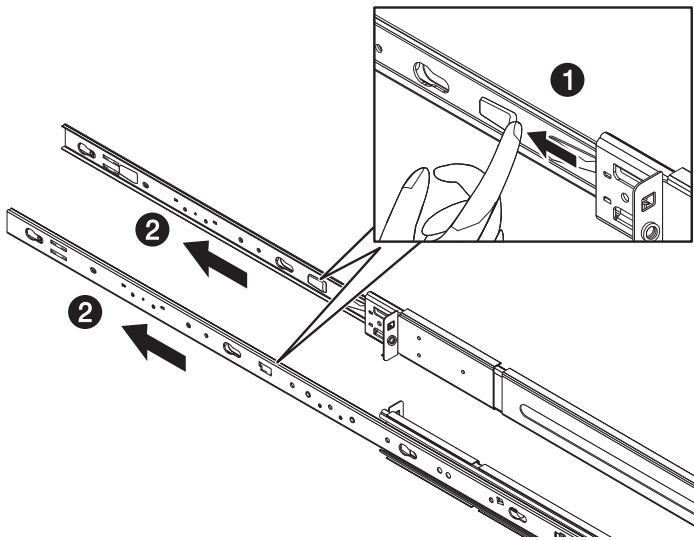
Caution! To minimize the chances of injuries, make sure that two or more people help in installing the server.

To install the system into a four-post rack:

1 Remove the inner rails from the mounting rails.

(1) Extend the inner rail from the mounting rail until the rail release latch clicks.

(2) Depress the release latch **(1)** and slip the inner rail out **(2)**.



(3) Do the same thing to the other mounting rail.

Caution! To avoid personal injury, care should be taken when pressing the inner rail release latches and sliding the component into the rack.

2 Attach the inner rails to both sides of the server.

Please use screws that came with the rack-mount kit when attaching the inner rails to both sides of the server. If your system already has screws attached, please remove them.

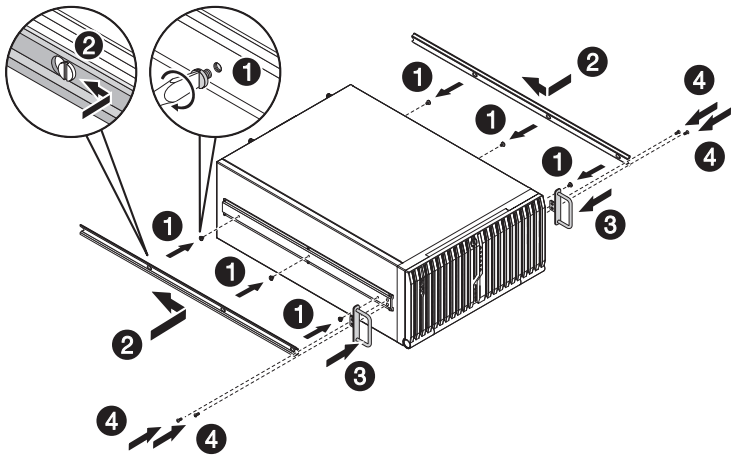
Note: Using screws other than those supplied in this rack-mount kit to attach the rails will void the warranty, Acer cannot be held responsible for any damage for incorrect installation.

(1) Align the screw holes of the inner rail to the server screws.

(2) Slide the rails to the left until the rails lock into place with an audible click.

(3) Align the handle on both sides of the server.

(4) Screw in place the handle on both sides of the server.



3 Install the mounting rails to the rack posts.

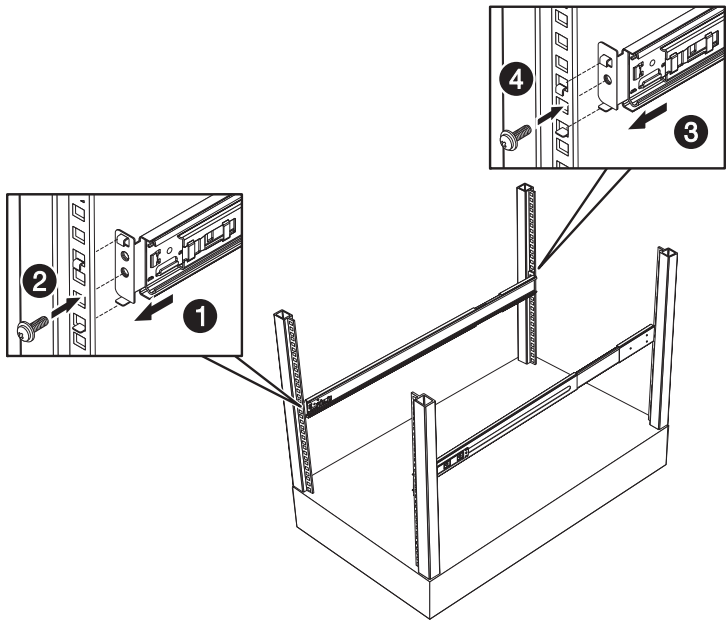
(1) Determine the vertical position in the rack. Refer to “Vertical mounting hole pattern” on page 162 for more information.

(2) Align and insert the mounting rail into the rack posts’ mounting holes.

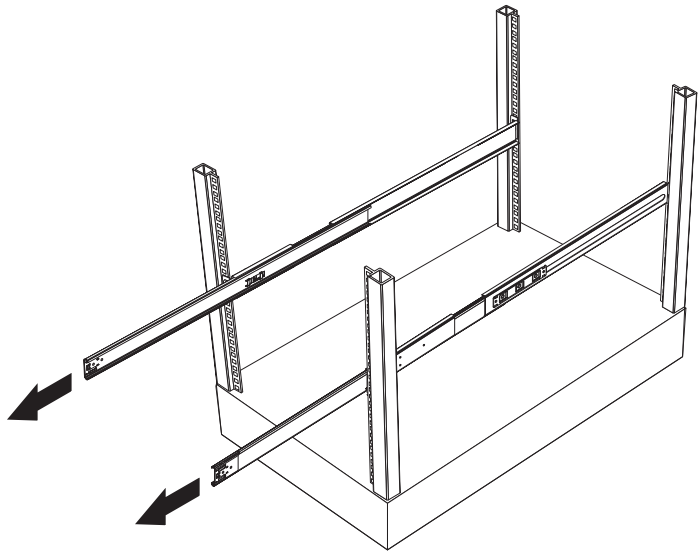
(3) Make certain the proper mounting holes on the rack post are selected.

(4) Use two metal screws to secure the front and rear mounting rail to the rack.

(5) Do the same thing to the other mounting rail.



(6) Fully extend the mounting rails on the rack.



4 Install the server into the rack.

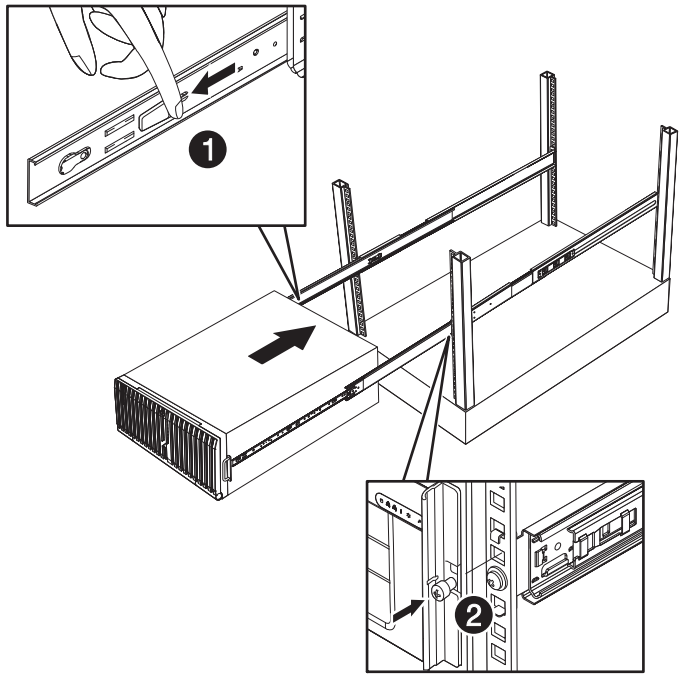
Caution! To avoid personal injury, care should be taken when pressing the inner rail release latches and sliding the component into the rack.

(1) Carefully align the inner rails attached to the server with the fully extended mounting rails on the rack.

(2) Press the release latch on both sides of the server.

(3) Insert the inner rails into the mounting rails, then push the server into the rack until you hear a click sound.

(4) Secure the server to the rack using the two metal screws.



5 Attach the CMA (cable management arm) to the rear of the server.

The cable arm option allows you to tie-wrap all cables to and from the system. As you slide the system in and out of the rack, the cable arm collapses and extends, keeping the cables untangled and attached to the system.

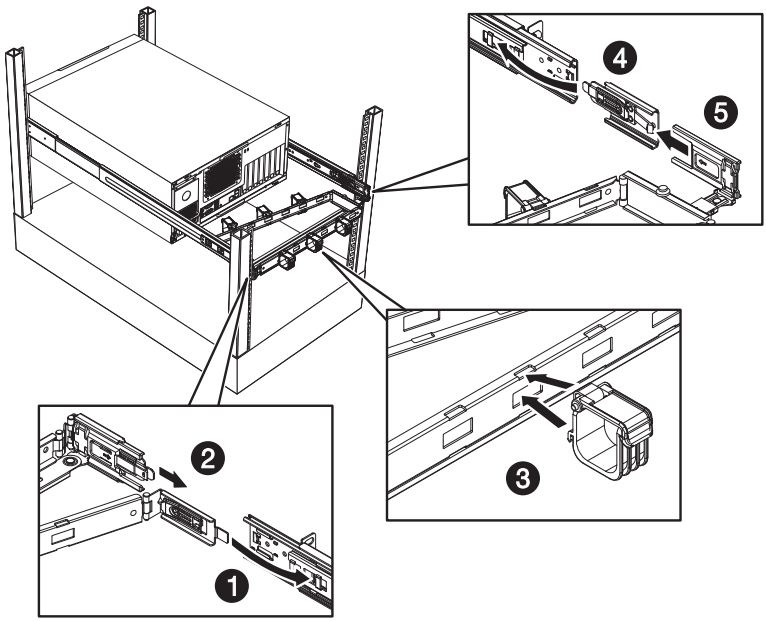
(1) Insert the smaller CMA extension into the rear of the left inner rail.

(2) Insert the larger CMA extension into the rear of the left mounting rail.

(3) Insert the CMA extension connector into the rear of the right mounting rail.

(4) Insert the CMA arm connector into the plastic cutout on the CMA extension connector.

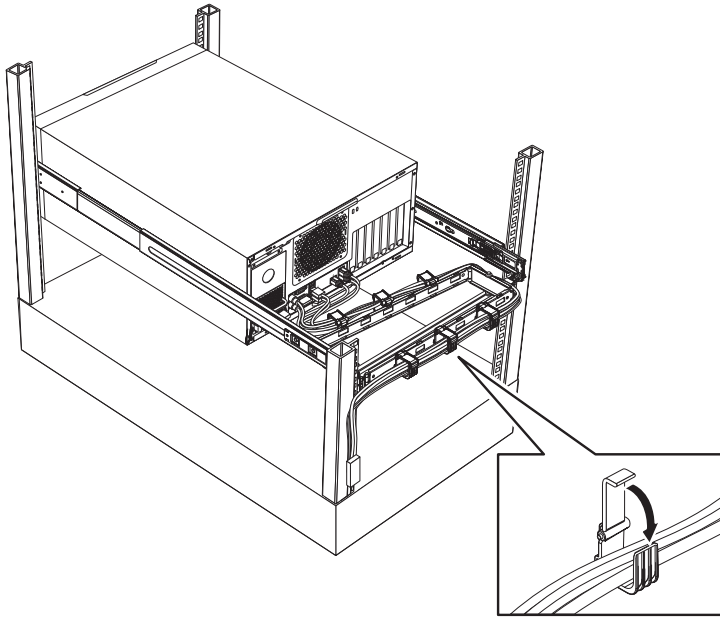
(5) Attach the cable clips into the appropriate mounting holes in the CMA.



(6) Connect the power, peripheral and networking cables into their appropriate ports.

See “Connecting peripherals” on page 32.

(7) Route all cables through the cable clips.



Appendix C: Altos eXpress Console

This appendix familiarize you to a standard web browser with a nice graphical user interface.

Using Your Altos eXpress Console

The Altos eXpress Console has a user-friendly Graphics User Interface (GUI) - a standard Internet browser. This article will make you become familiar with the Altos eXpress Console. Each function will be described clearly.

Altos eXpress Console provides lots of benefits to users:

System monitoring

Altos eXpress Console provides detail information through Web UI, including system information reading, system health overview, sensors reading, System Event Log reading. And an obvious picture with green, amber or red color in system health overview and sensor reading will greatly help users to understand system status.

Remote system management

Altos eXpress Console provides KVM/IP (Console Redirection). KVM can let users fully control system in operating system stage or even in booting stage. Users can remotely power on, off, reset system through Altos eXpress Console in band or out-of-band. Altos eXpress Console implements media redirection for the CD/DVD ROM drive and floppy drive. This feature enables remote installation of the operating system or applications.

Notification

Altos eXpress Console implements 2 kind methods, SNMP trap and E-mail, to inform someone or some management software when system status changed.

Cross platform

Altos eXpress Console uses a standard HTTP protocol. Users can easily use a standard Internet browser to remotely manage Altos servers on different operating system. Altos eXpress Console also provides cross-platform JAVA-based KVM (Console Redirection).

Security

Altos eXpress Console offers SSL (Secured Socket Layer) and auto session time out. Users can add higher security to use Web UI through HTTPS. In using KVM and media redirection, users also can encrypt the communication.

Account management

Altos eXpress Console implements role-based management. User accounts are separated into 3 levels, no access, operator and administrator. Altos eXpress Console also provides LDAP Client Support.

Software Installation

Prerequisites on remote management PC

Before installing Java tool and UPnP tool, make sure your system have the following configuration requirements:

- Supported environments: Microsoft Windows Vista, XP, Windows 2000, 2003, 2008 Server.
- JAVA Recommended Version 6 Update 12 (file size: ~ 7 MB)

Note: Because the default IP address setting of BMC is DHCP, users need an UPnP tool to remotely discover the BMC IP address at the first.

Note: Because "KVM Remote Console Redirection" function needs to run in JAVA environment, users have to install JAVA Runtime Environment Tool.

Installing the Java Tool

Follow the instructions below to install Java in a Windows operating system.

1 Go to http://www.java.com

2 Click Download on the upper right corner of the home page.

3 Click see all Java downloads.

4 Click Windows XP/Vista/2000/2003/2008 Online.

5 Choose a folder location. (Save the file to a known location on your computer.)

6 Click Save.

7 Click Yes to replace.

8 Verify the following:

(1) Name of the file is jre-6u12-windows-i586-p.exe or later version.

(2) Size is approximately 7MB.

9 Close all applications including the browser.

10 Double-click on the saved file icon to start the installation process.

Installing the UPnP tool

Follow the instructions below to get Intel Device Spy for UPnP Technologies tool:

1 Download Device Spy for UPnP Technologies from the Intel website: http://www.intel.com/.

2 Search for the following phrase: Intel® Tools for UPnP Technologies

The download page changes from time to time, so doing a search will give you the best results.

3 Download the compressed file and uncompress it. The file will have a filename similar to the following:

Download, Windows installer, .NET CLR 2.0 runtime required (ZIP 3.7MB)

The ZIP file will contain an EXE file that will have a filename similar to the following:

Intel_Tools_4UT_v1768.exe

4 Run the EXE file. The Device Spy.exe file becomes available. The Device Spy.exe file contains the *Intel Device Spy for UPnP Technologies* program.

Device Spy: Intel's Universal Control Point (UCP). This tool readily tests "action" invocations and events. Device Spy also traces packets sent to UPnP devices.

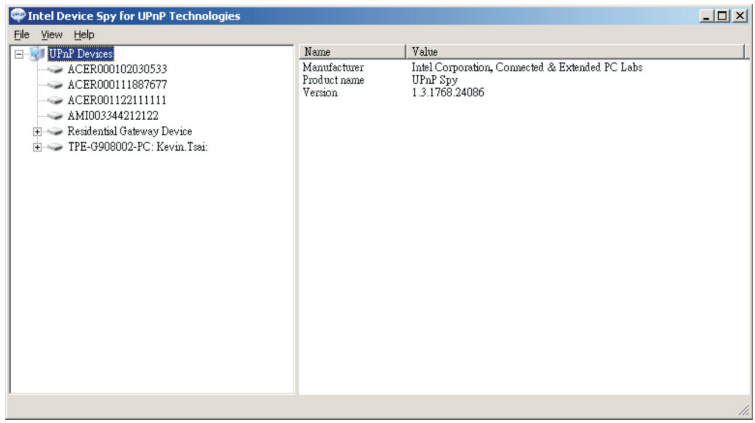
For more information on how to use Intel Device Spy for UPnP Technologies see the documentation provided with it.

Using the UPnP tool to search for an Altos server

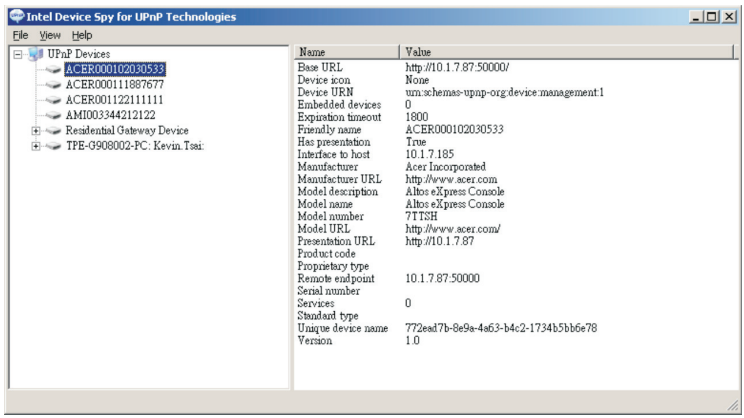
Follow the instructions to search Altos server by using UPnP tool:

1 Download and install the Intel Device Spy for UPnP Technologies program onto your remote client system. Refer to previous section for more information.

2 Run the Intel Device Spy for UPnP Technologies program. The name Acer Altos eXpress Console Device displays on the left pane, under the UPnP Devices tree.



3 Select Acer Altos eXpress Console Device to view its properties on the right pane.



4 Click on the IP address located in the Presentation URL field to connect to your Altos server.

5 System will prompt a window for the user name and password.

6 Enter the default user name and password.

- Username: **root**
- Password: **superuser**

Note: The default user name is root and the default password is superuser. Both user name and password are case sensitive and should be entered in lower case each time.

7 Click Login to log on to your Altos eXpress Console.

Altos eXpress Console

Accessing the Altos eXpress Console

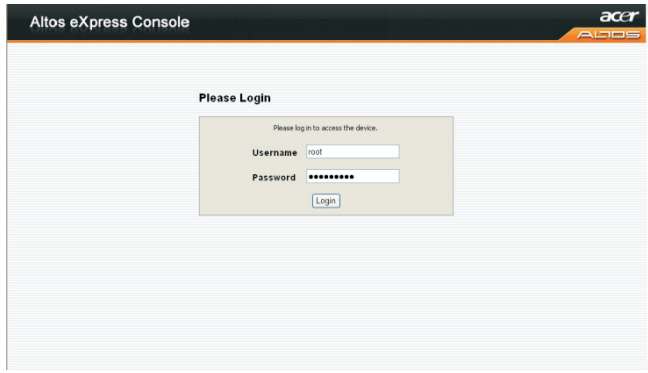
There are two ways to access the Altos eXpress Console. One way is to use the UPnP tool, or the other option is to use the Internet Explorer Web browser.

To access the Altos eXpress Console using the UPnP tool:

1 Run the Intel Device Spy for UPnP Technologies program. See previous section.

2 Click on the server.

3 Click Presentation URL when the server is found. The system will prompt you to enter the user name and password.



4 Enter the root user name and password when the login screen appears, then click Login. The Altos eXpress Console page appears.

- Username: **root**
- Password: **superuser**

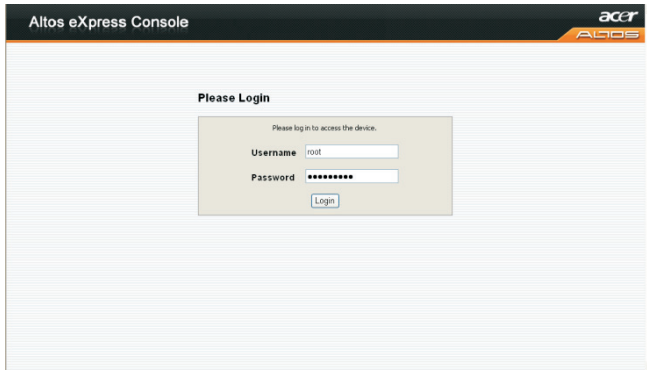
Note: The default user name is root and the default password is superuser. Both user name and password are case sensitive and should be entered in lower case each time.

Important: Logging into the console allows you full administrative rights. It is advised that after logging into the console that you change your password.

To access the Altos eXpress Console using the Web browser:

1 Open the Internet Explorer Web browser.

2 Enter the IP address. You can use UPnP tool to get the IP address. The system will prompt you to enter the user name and password.



3 Enter the root user name and password when the login screen appears.

- Username: **root**
- Password: **superuser**

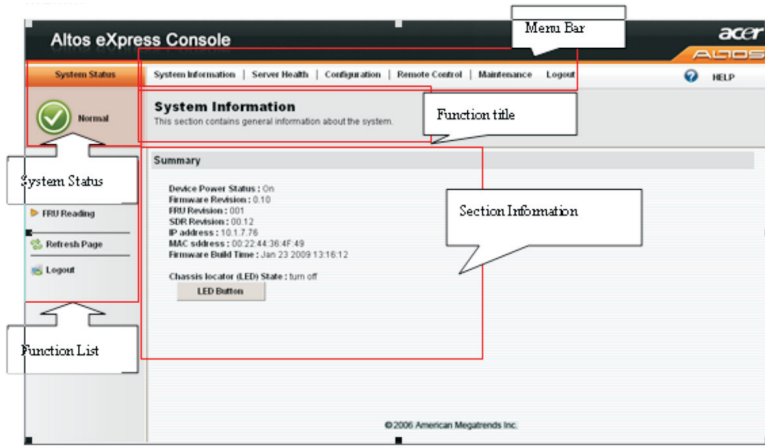
Note: The default user name is root and the default password is superuser. Both user name and password are case sensitive and should be entered in lower case each time.

Important: Logging into the console allows you full administrative rights. It is advised that after logging into the console that you change your password.

4 Click Login. The Altos eXpress Console page appears.

Altos eXpress Console User Interface

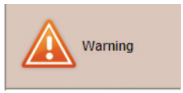
After you have successfully logged on to the console, the Altos eXpress Console page displays. The Altos eXpress Console user interface provides a central location for managing Altos servers. The user interface includes a system status alert indicator, function list, menu bar, function title, section information, and an online help.



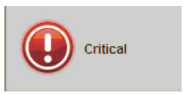
System Status

System Status Indicator, located on the upper left corner of the Altos eXpress Console page, monitors and displays health and stability of the Altos system. The sensors on the system allows you to monitor the Altos system's hardware parameters, such as fan performance, temperature sensors, voltages, and power status. The following are the different system health statuses that may be displayed on the console.

Normal: The system is in good health and no alerts were detected on the sensors.



Warning: At least one sensor has a warning alert.



Critical: At least one sensor has critical alert.

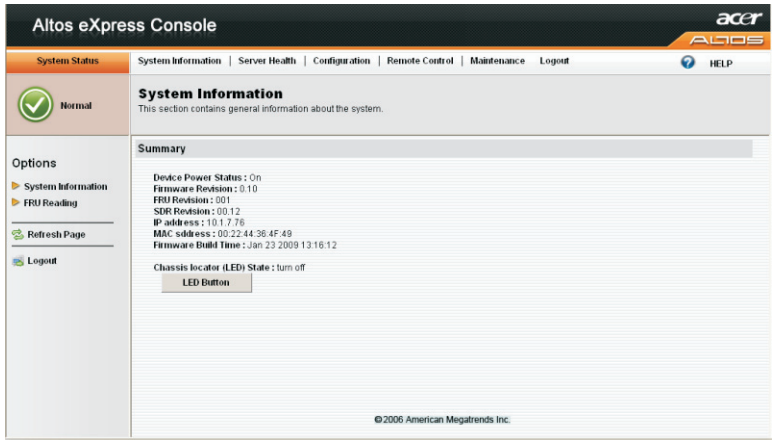
Priority: Critical > Warning > Normal

System Information

The System Information menu includes options that allows you to view general system information and the system FRU (field replaceable unit). Selecting the System Information menu displays the System Information and FRU Readings options on the left pane.

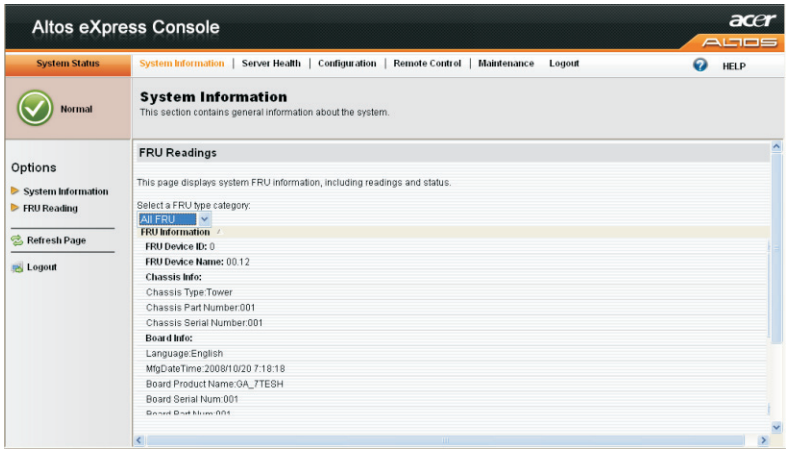
System Information

The System Information option displays the general server information, such as the power status, management network IP and management controller MAC address, BMC firmware version and build time, FRU revision and SDR revision and allows you to manage the chassis LED indicator.



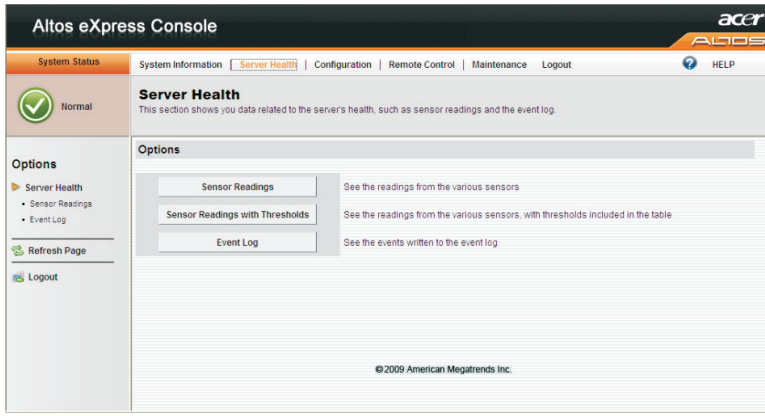
FRU Readings

The FRU Readings option provides information about major system components, including chassis, mainboard, and product information.



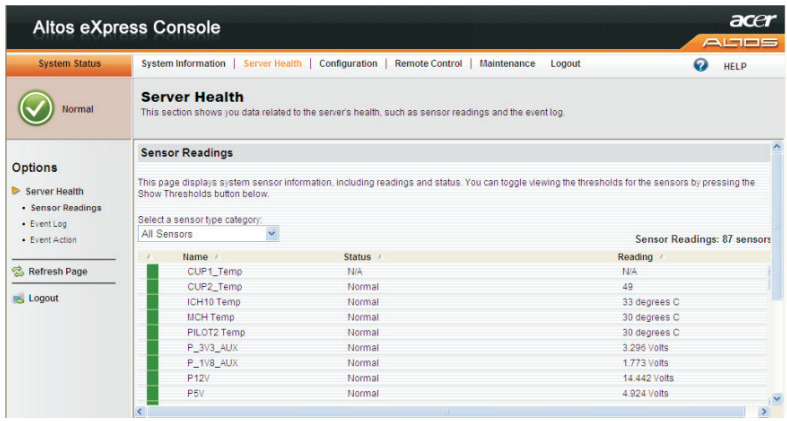
Server Health

The Server Health menu displays data related to the server's health, such as the sensor reading and the event log. This menu include two options: Sensor Readings and Event Log.


Altos eXpress Console
acer
ALTOS
System Status
System Information | Server Health | Configuration | Remote Control | Maintenance | Logout
HELP
Normal
Server Health
This section shows you data related to the server's health, such as sensor readings and the event log.
Options
Server Health
Sensor Readings
Event Log
Refresh Page
Logout
Options
Sensor Readings
See the readings from the various sensors
Sensor Readings with Thresholds
See the readings from the various sensors, with thresholds included in the table
Event Log
See the events written to the event log
©2009 American Megatrends Inc.

Sensor Readings

The Sensor Readings option allows you to monitor status of the voltages of the power supply, the fan speed, and the processor and system temperature sensors.


Altos eXpress Console
acer
ALTOS
System Status
System Information | Server Health | Configuration | Remote Control | Maintenance | Logout
HELP
Normal
Server Health
This section shows you data related to the server's health, such as sensor readings and the event log.
Options
Server Health
Sensor Readings
Event Log
Event Action
Refresh Page
Logout
Sensor Readings
This page displays system sensor information, including readings and status. You can toggle viewing the thresholds for the sensors by pressing the Show Thresholds button below.
Select a sensor type category:
All Sensors
Sensor Readings: 87 sensors
Name
Status
Reading
CUP1_Temp N/A N/A
CUP2_Temp Normal 49
ICH10 Temp Normal 33 degrees C
MCH Temp Normal 30 degrees C
PILOT2 Temp Normal 30 degrees C
P_3V3_AUX Normal 3.296 Volts
P_1V8_AUX Normal 1.773 Volts
P12V Normal 14.442 Volts
P5V Normal 4.924 Volts

Sensor Color Display

On the Sensor Readings page, the health condition of the system processor, fan, temperature, and voltage is indicated by the color of the box displayed before each sensor category.

- Green - Indicates the system is in good health and no alerts were detected on the sensors.
- Amber - Indicates at least one sensor has a warning alert.
- Red - Indicates at least on sensor has a critical alert.

Threshold

On the Sensor Readings page, click Show Thresholds to view the threshold parameters of each sensor. It displays the Low Non-Critical (NC), High Non-Critical (NC), High Critical Threshold (CT) threshold information, and these items can not be modified. When each threshold matches alert level, system will send the alert to the specified destinations. To configure the specified destination, please go to Alert section.

To refresh the sensor status, just click the Refresh tab.

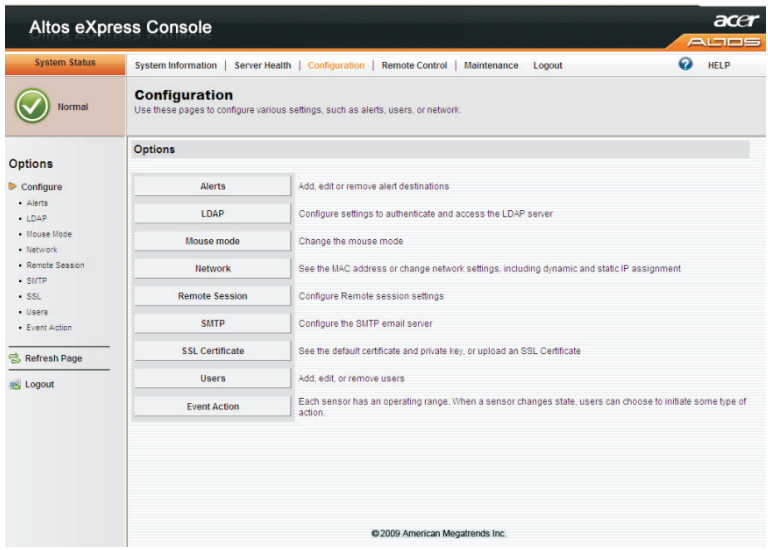
Event Log

The Event Log option provides a record of system events related to the hardware critical components. It logs the events when the sensor are in abnormal state or recovering from an abnormal state. When the log matches the pre-defined alert, the system will send out the notification automatically if it is pre-configured.

Altos eXpress Console
acer
Altos
System Status
System Information | Server Health | Configuration | Remote Control | Maintenance | Logout
HELP
Critical
Server Health
This section shows you data related to the server's health, such as sensor readings and the event log.
Options
Server Health
Sensor Readings
Event Log
Event Action
Refresh Page
Logout
Below is a table of the events from the system's event log. You can choose a category from the pull-down box to filter the events, and also sort them by clicking on a column header.
Select an event log category:
Sensor-Specific Events
Event Log: 18 event entries
Event ID | Time Stamp | Sensor Number | Sensor Name | Sensor Type | Description
19 01/01/2007 00:00:29 43 P12V Voltage Upper Critical - Going High - Asserted
18 01/01/2007 00:00:29 43 P12V Voltage Upper Non-Critical - Going High - Asserted
17 01/01/2007 00:00:28 13 SYS_FAN1 Fan Lower Critical - Going Low - Asserted
16 01/01/2007 00:00:27 139 BP_FAN12 Fan Lower Critical - Going Low - Asserted
15 01/01/2007 00:00:27 138 BP_FAN11 Fan Lower Critical - Going Low - Asserted
14 01/01/2007 00:00:26 136 BP_FAN9 Fan Lower Critical - Going Low - Asserted
Clear Event Log

Configuration

The Configuration menu allows you to designate email recipients for notification of system alerts, configure the LDAP (Lightweight Directory Access Protocol) settings, configure the mouse mode settings, configure the network settings, configure the remote session settings, configure the SMTP email server settings, create an SSL certificate, manage users, and initiate actions for a sensor alert.

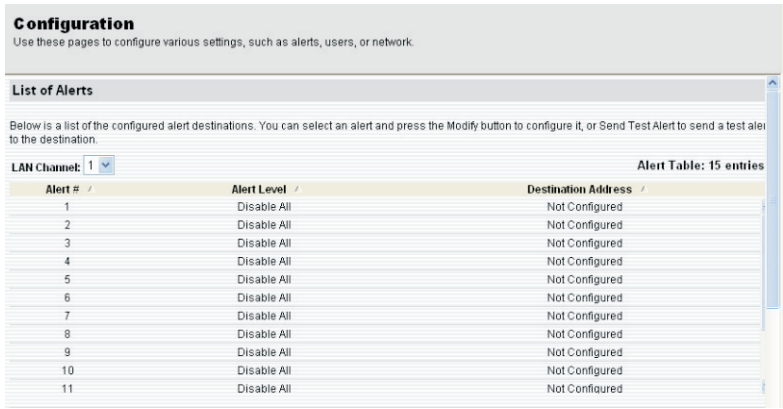


The Configuration menu include the following configuration options:

- Alerts
- LDAP
- Mouse mode
- Network
- Remote Session
- SMTP
- SSL Certificate
- Users
- Event Action

Alerts

The Alerts option allows you to designate email recipients for notification of system alerts. You can designate up to fifteen email address recipients. When alerts occur, the system will send an E-mail or a SNMP (Simple Network Management Protocol) traps containing the event detail to the designated recipients.


Configuration
Use these pages to configure various settings, such as alerts, users, or network.
List of Alerts
Below is a list of the configured alert destinations. You can select an alert and press the Modify button to configure it, or Send Test Alert to send a test aler
to the destination.
LAN Channel: 1
Alert Table: 15 entries
Alert # Alert Level Destination Address
1 Disable All Not Configured
2 Disable All Not Configured
3 Disable All Not Configured
4 Disable All Not Configured
5 Disable All Not Configured
6 Disable All Not Configured
7 Disable All Not Configured
8 Disable All Not Configured
9 Disable All Not Configured
10 Disable All Not Configured
11 Disable All Not Configured

The Alerts page allows you to do the following:

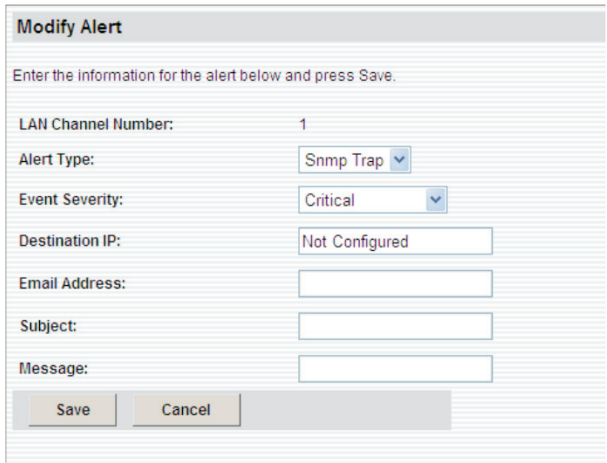
- Modify - Change the email address or the destination server.
- Send Test Alert - Sends a test alert to the designated email address.
- Delete - Removes the pre-set alert destination settings.

Setting up alerts

You can set up notifications to be sent via SNMP traps or via email.

To set up SNMP traps:

1 On the Alerts page, click Modify.



2 From the Alert Type menu, select Snmp Trap.

3 Specify the event severity, such as Critical or Warning.

4 Enter the recipient's email address.

5 Enter a subject and message.

6 Click Save.

To set up email notifications:

1 On the Alerts page, click Modify.

2 From the Alert Type menu, select e-mail.

3 Specify the event severity, such as Critical or Warning.

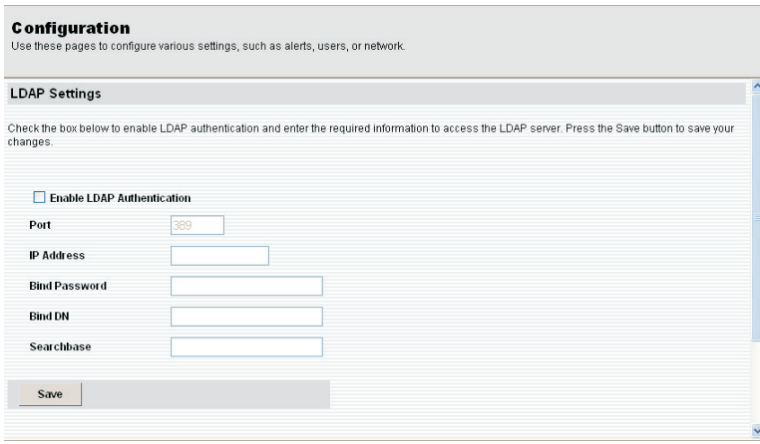
4 Enter the recipient's email address.

5 Enter a subject and message.

6 Click Save.

LDAP

The LDAP option allows you to download user account list and the authentication from the LDAP server and create Altos eXpress Console user account from this list.


Configuration
Use these pages to configure various settings, such as alerts, users, or network.
LDAP Settings
Check the box below to enable LDAP authentication and enter the required information to access the LDAP server. Press the Save button to save your changes.
Enable LDAP Authentication
Port
389
IP Address
Bind Password
Bind DN
Searchbase
Save

To configure the LDAP settings:

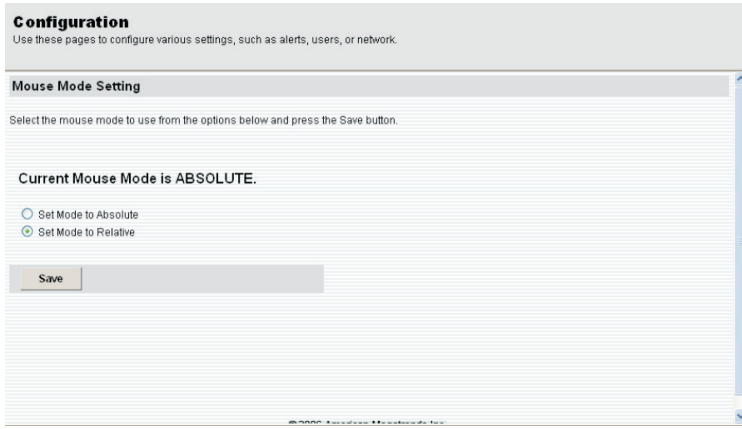
1 On the LDAP Settings page, click the Enable LDAP Authentication check box.

2 Enter the required information to access the LDAP server.

3 Click Save.

Mouse mode

The Mouse mode option allows you to set a mouse mode to control your mouse.


Configuration
Use these pages to configure various settings, such as alerts, users, or network.
Mouse Mode Setting
Select the mouse mode to use from the options below and press the Save button.
Current Mouse Mode is ABSOLUTE.
Set Mode to Absolute
Set Mode to Relative
Save

To set the mouse mode:

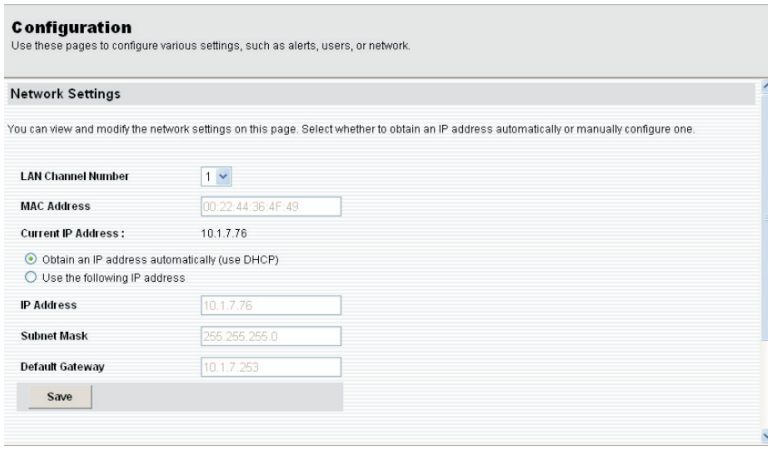
1 On the Mouse Mode Setting page, select a mouse mode.

- Absolute - Select this setting when using a Microsoft Windows operating system.
- Relative - Select this setting when using a Linux operating system.

2 Click Save.

Network

The Network option allows you to configure and change the management network parameters. You can configure the network settings by using DHCP (Dynamic Host Configuration Protocol) or manually.



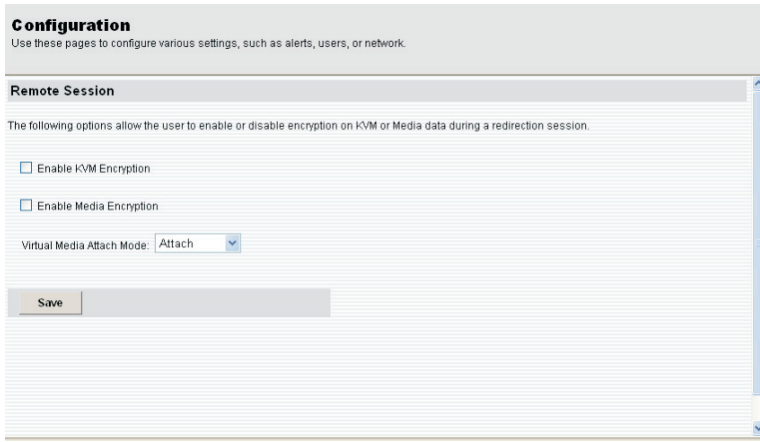
To configure the network settings:

1 On the Network Settings page, select whether to obtain an IP address automatically or configure the network settings manually.

2 Click Save.

Remote Session

The Remote Session option allow you to enable or disable encryption on KVM (Keyboard, Video Mouse) or Media data during a redirection session.


Configuration
Use these pages to configure various settings, such as alerts, users, or network.
Remote Session
The following options allow the user to enable or disable encryption on KVM or Media data during a redirection session.
Enable KVM Encryption
Enable Media Encryption
Virtual Media Attach Mode:
Attach
Save

To configure the Remote Session settings:

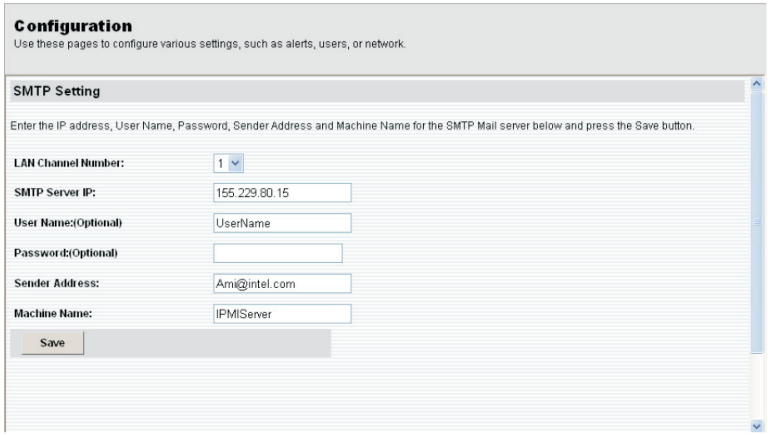
1 On the Remote Session page, select whether to enable KVM or Media Encryption.

2 Select a Virtual Media Attach Mode.

3 Click Save.

SMTP

The SMTP option allows you to configure the SMTP (Simple Mail Transfer Protocol) mail server settings.



To configure the SMTP settings:

1 On the SMTP Setting page, select a LAN channel number.

2 Enter the IP address of the SMTP server.

3 Enter the user name and password.

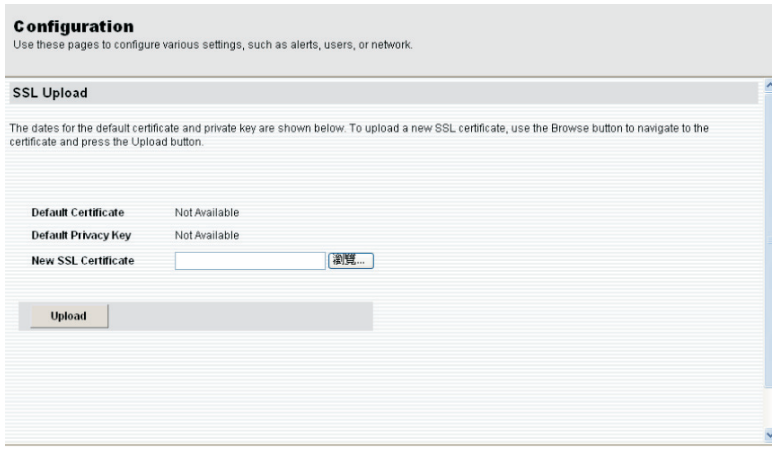
4 Enter the email address for sending email notifications.

5 Enter the machine name.

6 Click Save.

SSL Certificate

The SSL Certificate option allows you to upload a SSL certificate manually.


Configuration
Use these pages to configure various settings, such as alerts, users, or network.
SSL Upload
The dates for the default certificate and private key are shown below. To upload a new SSL certificate, use the Browse button to navigate to the certificate and press the Upload button.
Default Certificate
Not Available
Default Privacy Key
Not Available
New SSL Certificate
瀏覽...
Upload

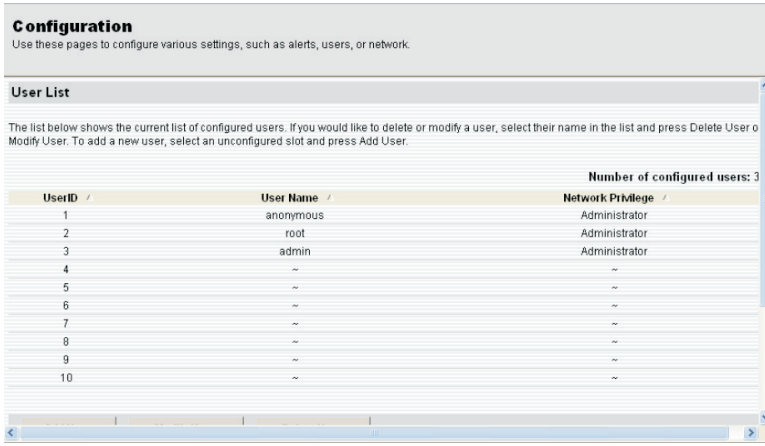
To upload an SSL certificate:

1 On the SSL Upload page, click Browse to locate the SSL certificate on your system.

2 Click Upload.

Users

The Users option allows you to create, edit, delete, and view user accounts from the user list.


Configuration
Use these pages to configure various settings, such as alerts, users, or network.
User List
The list below shows the current list of configured users. If you would like to delete or modify a user, select their name in the list and press Delete User o
Modify User. To add a new user, select an unconfigured slot and press Add User.
Number of configured users: 3
UserID
User Name
Network Privilege
1 anonymous Administrator
2 root Administrator
3 admin Administrator
4 ~ ~
5 ~ ~
6 ~ ~
7 ~ ~
8 ~ ~
9 ~ ~
10 ~ ~

To configure user accounts in the User List page, you can select from the following command buttons:

- Delete User - Removes the user from the list.
- Modify User - Edits the user profile.
- Add User - Creates a new user account.

User Privileges

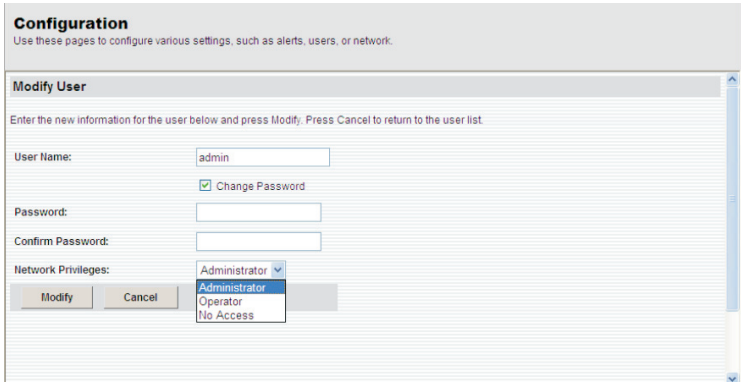
The User List page includes a privilege setting for determining the maximum privilege a user can have to the system. Users can be configured to have certain access permissions, such as administrator privilege, operator privilege, no access. The BMC (Baseboard Management Controller) maintains a local database of remote access users and their privileges. When the user logs in to the console, BMC determines the user's privileges and executes commands according to the privilege level.

The table below lists the privilege levels you can assign to a user.

Privilege level	Description
No access	Users assigned this privilege have the least amount of system access. This is considered the lowest privilege level.
Operator	The operator privilege has restricted access. All BMC commands are allowed, except for the configuration commands that allows the user to change the behavior of the out-of-band interfaces. Operator privilege can not disable individual channels or change user access privileges.
Administrator	The administrator privilege has full access and can configure the software and add users. Administrator privilege have access to all BMC commands, including configuration commands for disabling a communication channel.

To modify a user account:

1 On the Users page, click Modify User.



2 Enter the user name.

3 Enter the password.

4 Re-enter the password.

5 On the Network Privileges drop-down menu, select a privilege level.

6 Click Modify.

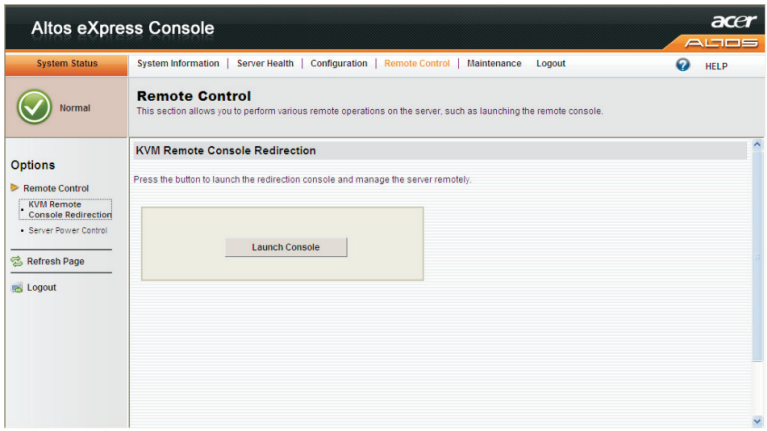
Event Action

The Event Action option allows you to initiate actions on a sensor alert. Listed below are the main functions in Event Action. You can set system power off, power reset or power cycle when an event occurred.

Action	Description
Global PEF Configuration	The Global PEF (Platform Event Filter) configuration enables or disables the power off, power reset, power cycle action.
Add PEF Entry	Adds a PEF entry. You can select the type of sensor you want to filter. Wait for the Event Offsets table, then select the PEF action and event offsets.
Current PEF Filters	Displays a list of the sensors associated with a component/system. The list includes sensor type, sensor number, sensor name, and PEF action.
Delete PEF Entry	Removes a PEF entry.

Remote Control

The Remote Control menu allows you to start a Remote Console session with the host system and manage power remotely. This menu include two options: KVM Remote Console Redirection and Server Power Control.

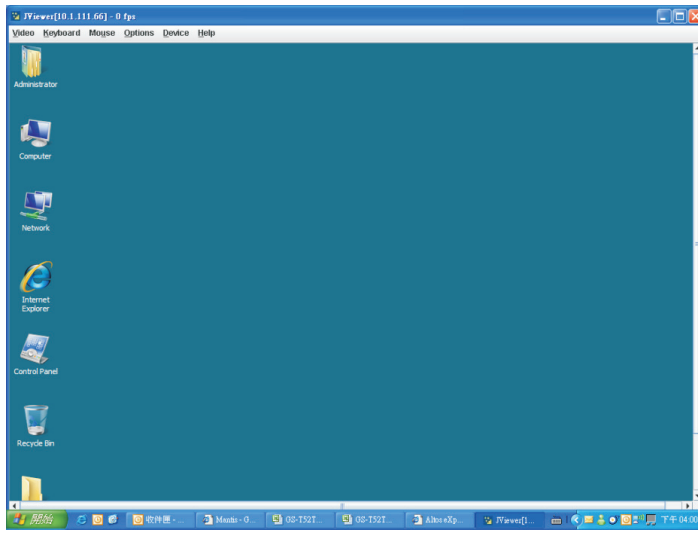

Altos eXpress Console
acer
ALTOS
System Status
System Information | Server Health | Configuration | Remote Control | Maintenance Logout
HELP
Normal
Remote Control
This section allows you to perform various remote operations on the server, such as launching the remote console.
Options
Remote Control
KVM Remote Console Redirection
Server Power Control
Refresh Page
Logout
KVM Remote Console Redirection
Press the button to launch the redirection console and manage the server remotely.
Launch Console

KVM Remote Console Redirection

The KVM Remote Console Redirection option allows you to start the KVM Remote Console utility and remotely manage the server using the monitor, mouse, keyboard as if you are connected directly to the server.

To launch the KVM Remote Console utility:

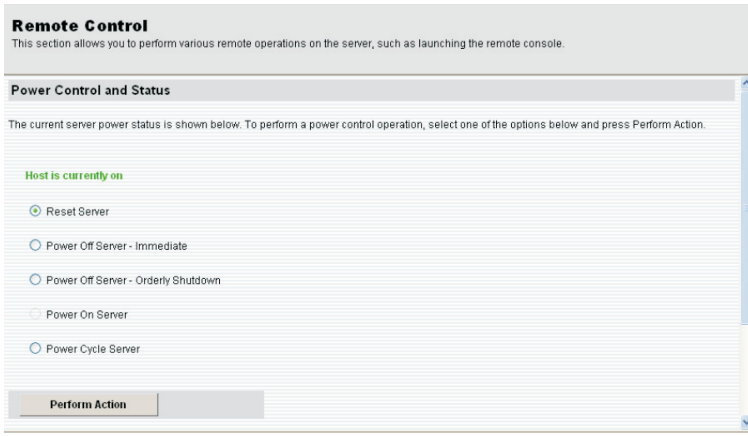
On the KVM Remote Console Redirection page, click Launch Console. The web browser downloads and automatically launches the remote console application. The KVM Remote Console screen appears.



For more information about the KVM Remote Console application, refer to “KVM Remote Console Utility” on page 205.

Server Power Control

The Server Power Control option allows you to perform a remote power on, power off, power cycle, and reset of your Altos server.

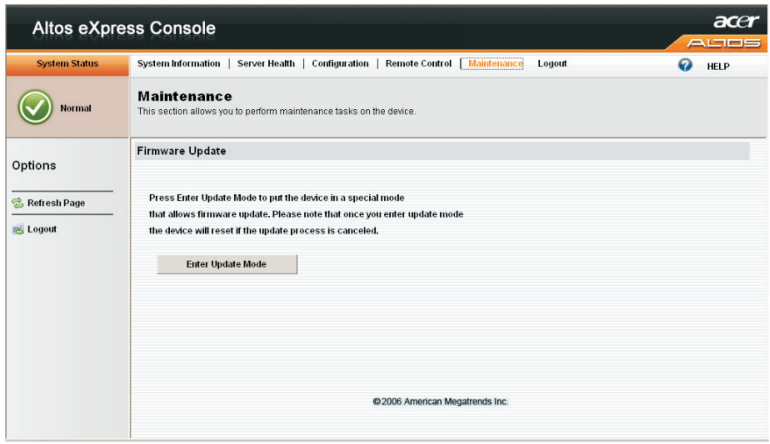

Remote Control
This section allows you to perform various remote operations on the server, such as launching the remote console.
Power Control and Status
The current server power status is shown below. To perform a power control operation, select one of the options below and press Perform Action.
Host is currently on
Reset Server
Power Off Server - Immediate
Power Off Server - Orderly Shutdown
Power On Server
Power Cycle Server
Perform Action

To perform a remote power control operation:

On the Server Power Control page, select an option, then click Perform Action.

Maintenance

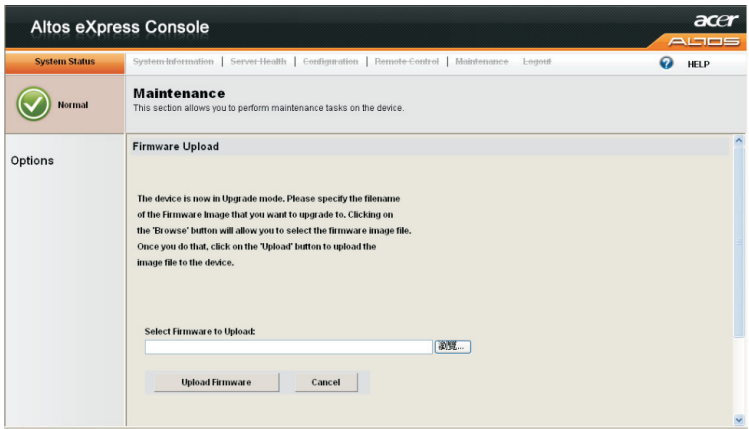
The Maintenance allows you to perform a upgrade task of the BMC firmware(including Altos eXpress Console and FRU information).


Altos eXpress Console
acer
ALTOS
System Status
System Information | Server Health | Configuration | Remote Control | Maintenance | Logout
HELP
Normal
Maintenance
This section allows you to perform maintenance tasks on the device.
Options
Refresh Page
Logout
Firmware Update
Press Enter Update Mode to put the device in a special mode
that allows firmware update. Please note that once you enter update mode
the device will reset if the update process is canceled.
Enter Update Mode
©2006 American Megatrends Inc.

To upgrade firmware:

1 On the Maintenance page, click Enter Update Mode. The Firmware Upload page appears.

Note: You will not be able to perform any tasks until the upgrade is completed and the device is rebooted.

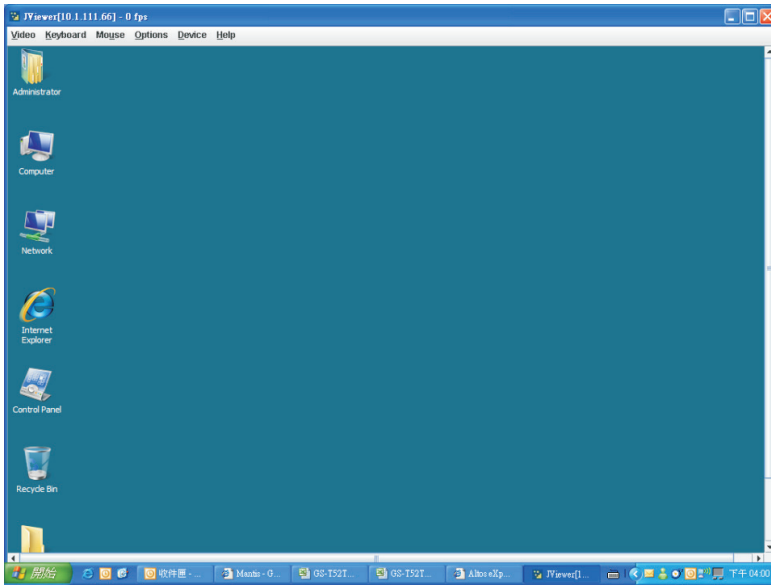

Altos eXpress Console
acer
ALTOS
System Status
System Information | Server Health | Configuration | Remote Control | Maintenance | Logout
HELP
Normal
Maintenance
This section allows you to perform maintenance tasks on the device.
Options
Firmware Upload
The device is now in Upgrade mode. Please specify the filename of the Firmware image that you want to upgrade to. Clicking on the 'Browse' button will allow you to select the firmware image file. Once you do that, click on the 'Upload' button to upload the image file to the device.
Select Firmware to Upload:
Browse...
Upload Firmware
Cancel

2 Click Browse to locate the firmware image file.

3 Click Upload to upload the image file to the server.

KVM Remote Console Utility

You can launch the KVM Remote Console utility from the Altos eXpress Console Remote Control menu. The KVM Remote Console utility enables you to control any programs on the server remotely, using a local keyboard, video and mouse.



Supported screen resolution

The KVM Remote Console utility of the Altos server only supports the following screen resolution setting:

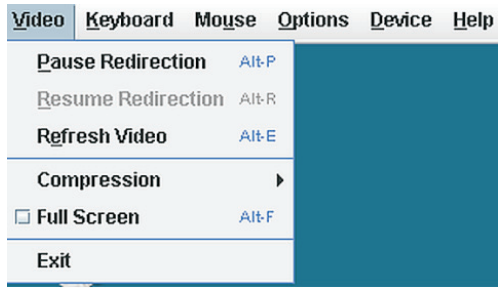
Screen Resolution	Color Quality	Refresh Rate
800 x 600	16bit / 24bit / 32bit	60Hz / 72Hz / 75Hz / 85Hz
1024 x 768	16bit / 24bit / 32bit	60Hz / 70Hz / 75Hz / 85Hz
1152 x 864	16bit / 24bit	75Hz
1280 x 1024	16bit	60Hz / 75Hz / 85Hz
1280 x 1024	24bit	60Hz

Screen Resolution	Color Quality	Refresh Rate
1600 x 1400	16bit	60Hz / 65Hz / 70Hz

Menu bar

The KVM Remote Console screen includes of a menu bar with the following selections.

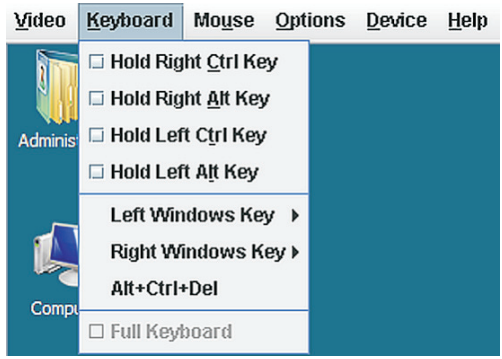
Video menu



The Video menu includes the following command options:

- Pause Redirection - Temporarily pauses the console redirection.
- Resume Redirection - Resumes console redirection.
- Refresh Video - Reloads the console redirection screen.
- Compression - Select a video compression type. Options include: None, Type I, Type II, Both
- Full Screen - Resizes the screen to full size of the local monitor.
- Exit - Closes the video viewer window.

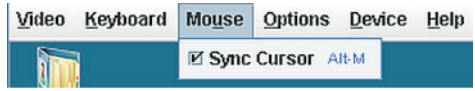
Keyboard menu



The Keyboard menu includes the following command options:

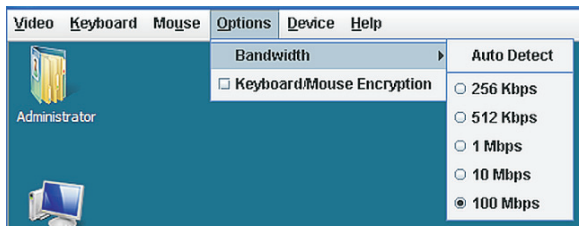
- Hold Right Ctrl Key - Select this option before typing keys you want to combine with the right <Ctrl> key.
- Hold Right Alt Key - Select this option before typing keys you want to combine with the right <Alt> key
- Hold Left Ctrl Key - Select this option before typing keys you want to combine with the left <Ctrl> key.
- Hold Left Alt Key - Select this option before typing keys you want to combine with the left <Alt> key.
- Left Windows Key - Select the Hold Down option before typing characters you want to combine with the right Windows key. Select the Press and Release option to send a left Windows key keystroke.
- Right Windows Key - Select the Hold Down option before typing characters you want to combine with the right Windows key. Select the Press and Release option to send a right Windows key keystroke.
- Alt+Ctrl+Del - Select this option to launch the Windows task manager.

Mouse menu



The Mouse menu includes the Sync Cursor command that enables you to synchronize the client's mouse cursor to be redirected to the mouse on the server.

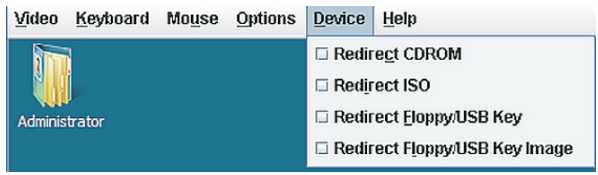
Option menu



The Option menu includes the following command options:

- Bandwidth - Select auto-detect or manually select a bandwidth. Options include: 256Kbps, 512 Kbps, 1 Mbps, 10 Mbps, and 100Mbps.
- Keyboard/Mouse Encryption - Select to enable or disable keyboard/mouse encryption.

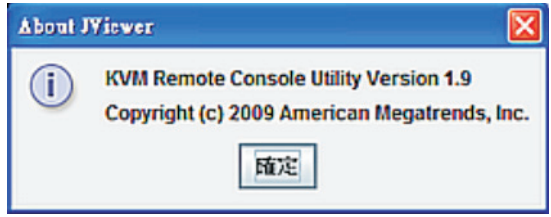
Device menu



The Device menu allows you to redirect to any of the following device or image:

- CD-ROM drive
- ISO file
- Floppy/USB key
- Floppy/USB key image

Help menu



The Help menu displays the KVM Remote Console Utility version and copyright information.

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